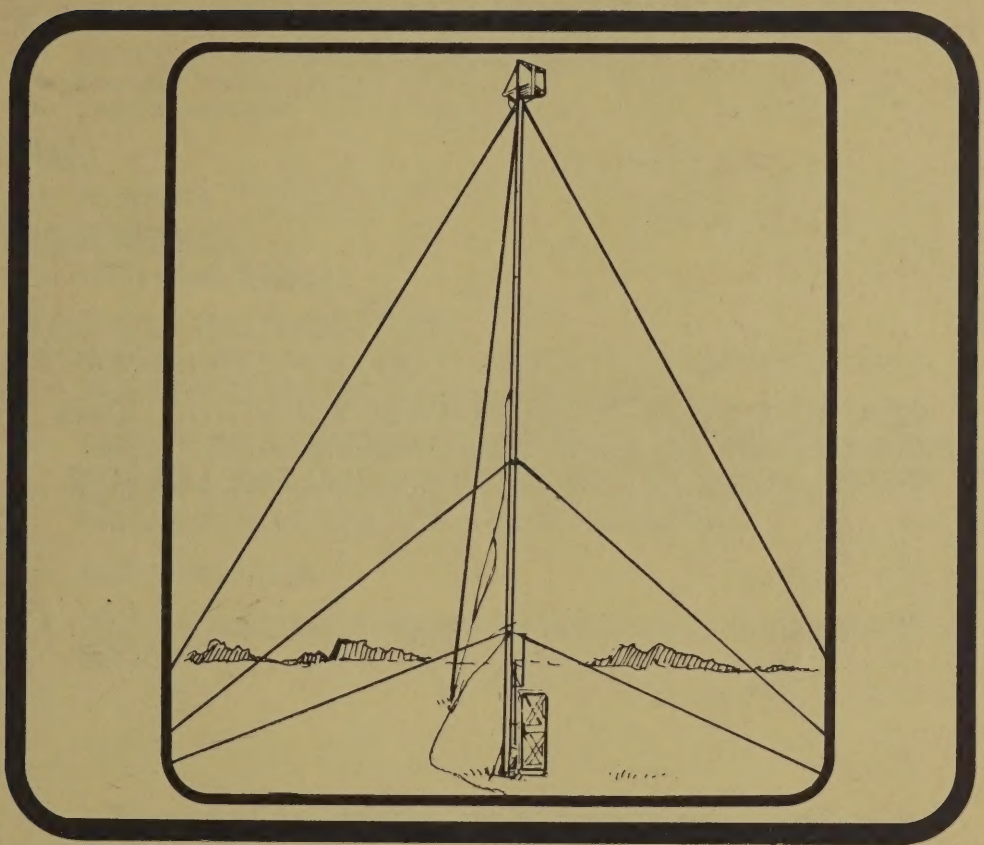
RADIO TERMINAL SET AN/TRC-117
ERECTING THE ANTENNA
PART 3
DISASSEMBLE

LESSON 202-113-5169-A



PRODUCED BY
US ARMY SIGNAL CENTER
AND FORT GORDON
FORT GORDON, GEORGIA 30905

MARCH 1983

STUDENT/SUPERVISOR INSTRUCTIONS AND PRETEST/POSTTEST ARE CONTAINED WITHIN THIS LESSON

READ THE STUDENT/SUPERVISOR INSTRUCTIONS CAREFULLY. BE SURE YOU UNDERSTAND THEM COMPLETELY BEFORE CONTINUING THE LESSON.

WHENEVER PRONOUNS OR OTHER REFERENCES DENOTING GENDER APPEAR IN THIS DOCUMENT THEY ARE WRITTEN TO REFER TO EITHER MALE OR FEMALE UNLESS OTHERWISE INDICATED.

STUDENT/SUPERVISOR INSTRUCTIONS
TEC LESSON 202-113-5169-A

AUDIENCE

- Applicable to Multichannel Communications Equipment Operator (31M)
- Skill Level 1 and 2.

TRAINING OBJECTIVE

- Disassemble the AB-577/GRC Antenna

MATERIAL/EQUIPMENT/PERSONNEL REQUIRED

- AN/TRC-117 (Complete and Operational)
- Source of power
- Qualified operator

TIME

- 90 minutes

REFERENCE

- TM 11-5895-366-14-2

STUDENT INSTRUCTIONS

- BEFORE TAKING THIS LESSON YOU MUST HAVE COMPLETED THE PREREQUSITES TO THIS LESSON 202-113-5168-A.
- TAKE THE PRETEST. IF YOU PASS, YOU NEED NOT TAKE THIS LESSON.
- BE SURE THAT YOU HAVE ALL MATERIAL, EQUIPMENT AND PERSONNEL REQUIRED TO COMPLETE THIS LESSON.
- TAKE THIS LESSON.
- TAKE THE POSTTEST. IF YOU DO NOT PASS, TAKE THE LESSON AND TEST AGAIN.

SUPERVISOR INSTRUCTIONS

- BE SURE THAT THE STUDENT HAS COMPLETED THE PREREQUISITES LISTED UNDER STUDENT INSTRUCTIONS.
- BE SURE THAT THE STUDENT HAS ALL MATERIAL, EQUIPMENT, OR PERSONNEL REQUIRED TO COMPLETE THIS LESSON AND THE PRETEST/ POSTTEST.
- BEFORE ADMINISTERING THIS LESSON YOU SHOULD COMPLETE THE ENTIRE LESSON AS A STUDENT. YOU MAY FIND IT HELPFUL TO TAKE NOTES ON THOSE TEACHING POINTS WHICH YOU FEEL NEED ADDITIONAL EXPLANANTION OR EMPHASIS.
- WHILE ADMINISTERING THIS LESSON YOU SHOULD WATCH THE STUDENTS CLOSELY TO BE SURE THEY ARE RESPONDING TO THE WORK REQUIRED OF THEM BY THIS LESSON. IF A STUDENT APPEARS PUZZLED DON'T ALLOW HIM TO CONTINUE UNTIL YOU HAVE PROVIDED GUIDANCE.
- DURING THE PRETEST/POSTTEST CONDUCT SCORING IN THE STUDENT'S PRESENCE AND IAW THE ANSWER KEY, AT THE END OF EACH STEP. THE ANSWER KEY IS LOCATED IN THE BACK OF THIS LESSON.
- THIS LESSON MAY BE ADMINISTERED TO INDIVIDUALS OR SMALL GROUPS.
- THIS LESSON AND THE PRETEST/POSTTEST ARE SELF-CONTAINED AND REQUIRE NO SPECIAL CONSIDERATION EXCEPT FOR ALL MATERIALS THAT MUST BE PROVIDED.
- COORDINATE WITH THE UNIT TO DETERMINE THE NUMBER OF SOLDIERS TO TAKE THE LESSON, AND ARRANGE FOR ALL MATERIALS NEEDED FOR THE PRESENTATION.
- THIS LESSON IS THE FOURTH IN A SERIES THAT IS DESIGNED TO BE PRESENTED IN CONJUNCTION WITH TEC LESSON 202-113-5165-A THROUGH 202-113-5175-A.

PRETEST/POSTTEST
(Circle Appropriate Test)

SCHOOL: SIGNAL
MOS: 31M10/20

TEC LESSON
202-113-5169-A

RADIO TERMINAL SET AN/TRC-117 ERECTING THE ANTENNA PART 3 DISASSEMBLE

This is the Pretest/Posttest for Lesson 202-113-5169-A Radio Terminal Set AN/TRC-117 Erecting The Antenna Part 3 Disassemble. This is a performance test and is scored GO/NO-GO only.

Given the TEC booklet for Lesson 202-113-5169-A, AN/TRC-117 (complete and operational) and a source of power, you must perform the following in accordance with test instructions.

a. Disassemble the AB-577/GRC Antenna

The above tasks must be performed within a time limit of 90 minutes.

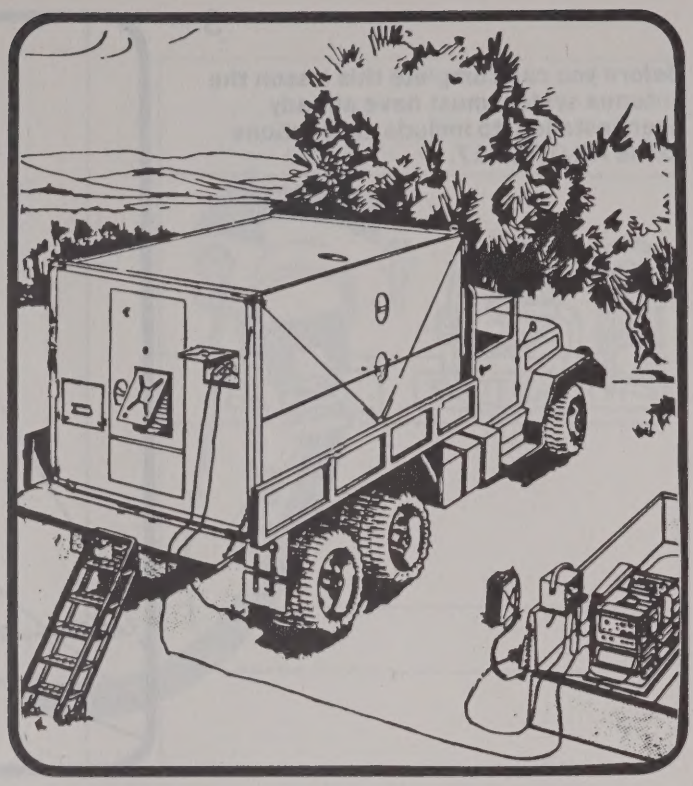
It is necessary that you perform all actions in the exact sequence that is listed in the test instructions.

TEST INSTRUCTIONS

1. Disconnect the antenna cables from the AN/TRC-117 Video and Antenna Entrance Box.
2. Hold top guys until mast is down.
3. Release the mast section coupler tool.
4. Release brake and raise mast.
5. Lock brake and remove mast section carrier.
6. Remove mast sections and place in carrier.
7. Remove white guys and guy ring.
8. Remove all but the last 2 mast sections.
9. Remove 80 ft coaxial cable from the antenna adapters and adapter from antenna.
10. Reel cable onto its reel, clean as you go.
11. Remove all guys from mast and launcher, clean and roll them up.
12. Remove GP-2 stakes and store into accessory roll bag.
13. Rest launcher on mast section carrier and remove RF Cable CG-718.
14. Remove antenna from mast section.
15. Remove last 2 mast sections.
16. Remove the winch.
17. Now put the mast section carrier back into the launcher.
18. Pull the stakes out of the ground.
19. Put all the equipment back into the shelter at this time.

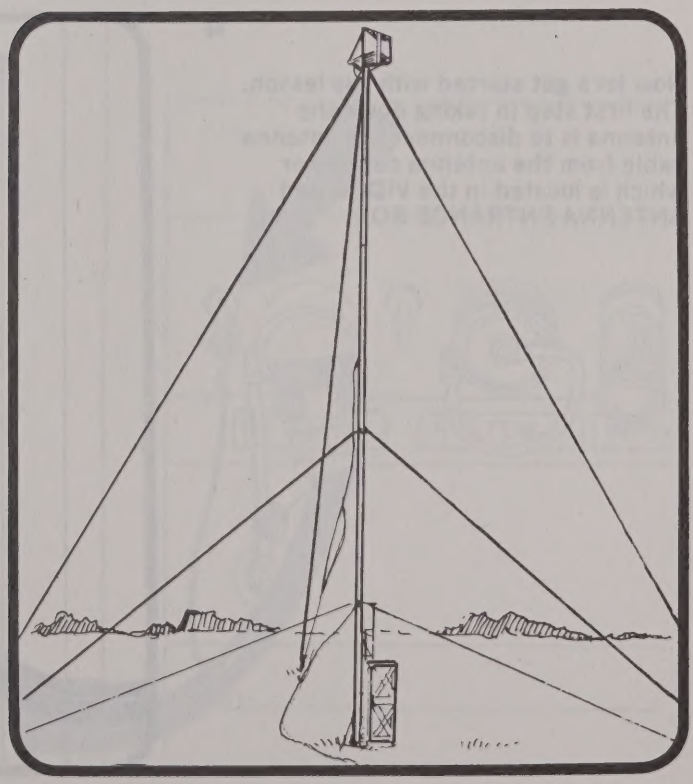
1

This is the fourth in a series of lessons on the Radio Terminal Set AN/TRC-117.



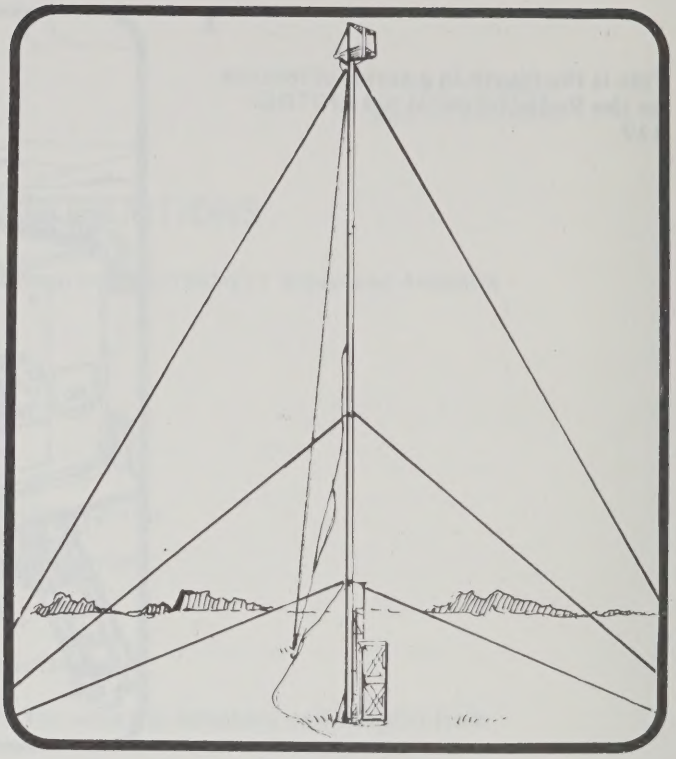
2

This lesson will teach you how to disassemble the AN/GRC-50 Antenna System when it's used with a Radio Terminal Set AN/TRC-117.



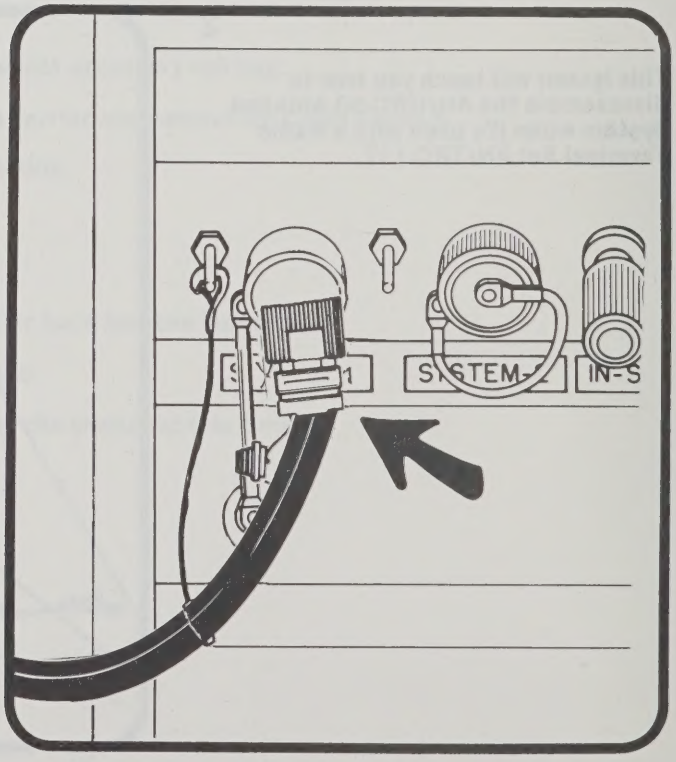
3

Before you can complete this lesson the antenna system must have already been installed, to include connections to the AN/TRC-117.



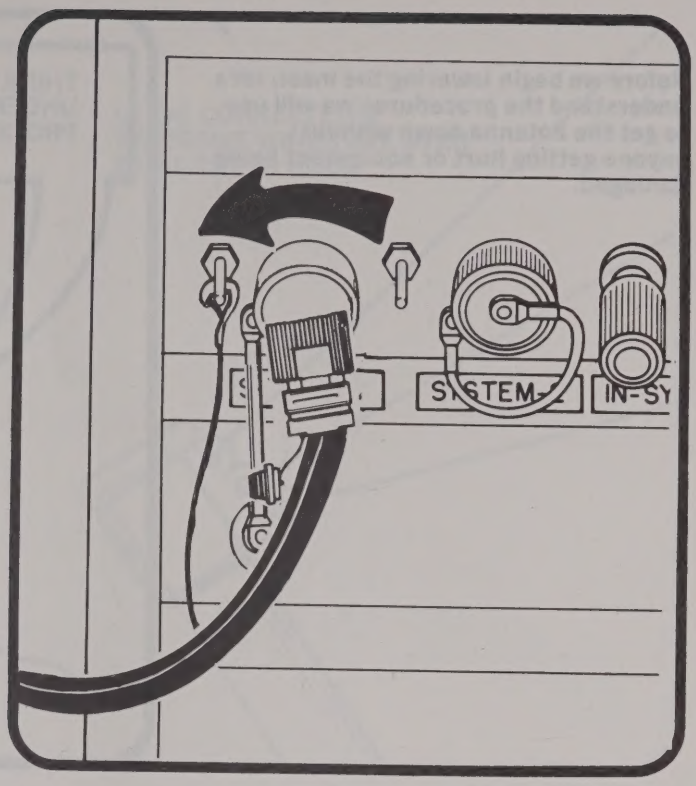
4

Now let's get started with the lesson. The first step in taking down the antenna is to disconnect the antenna cable from the antenna connector which is located in the VIDEO and ANTENNA ENTRANCE BOX.



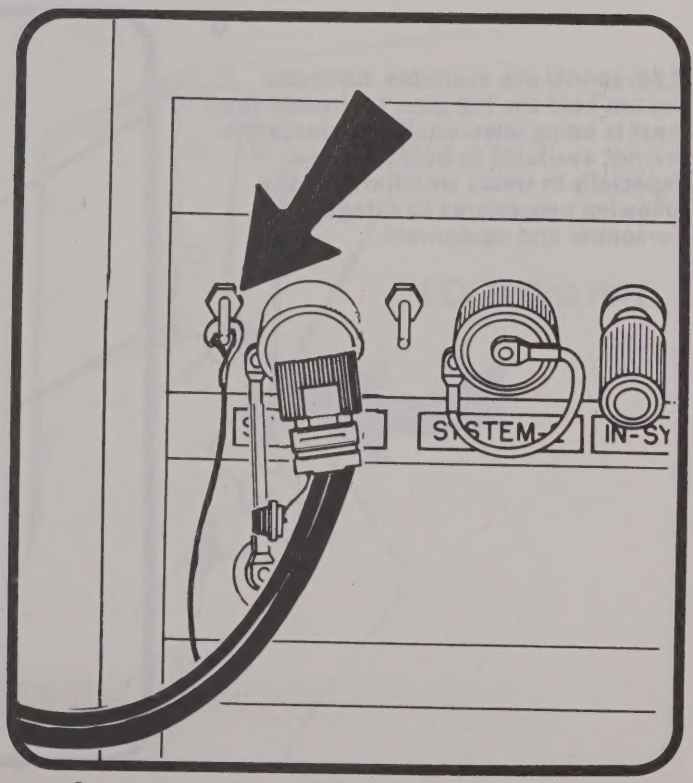
5

Disconnect the antenna cable from the antenna connector and replace the protective cover.



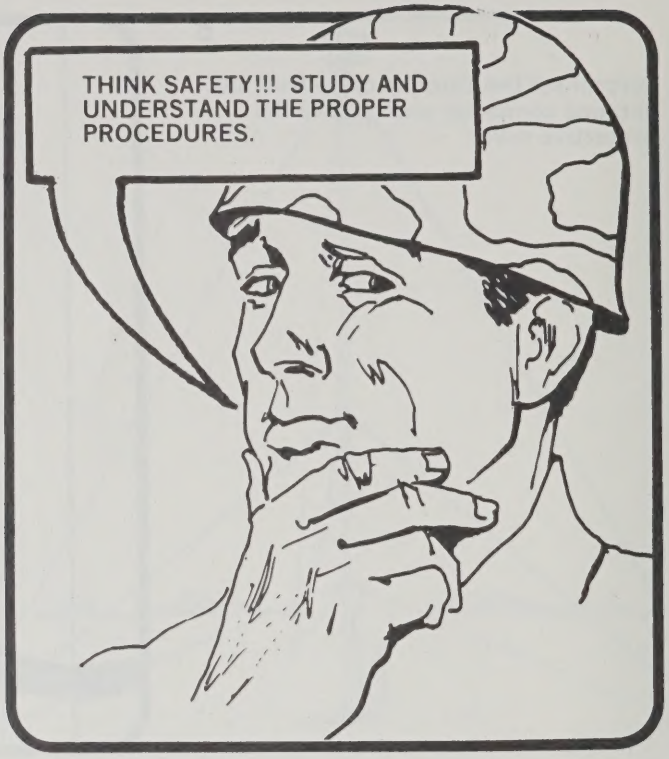
6

Next, unhook the strain-relief clamp from the cable support eye, then close and fasten the cover of the video and antenna entrance box.



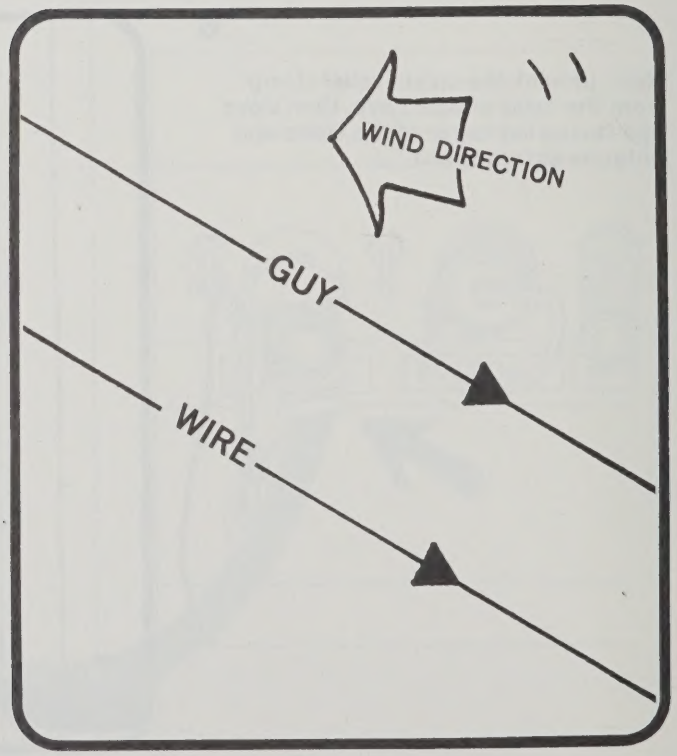
7

Before we begin lowering the mast, let's understand the procedures we will use to get the antenna down without anyone getting hurt or equipment being damaged.



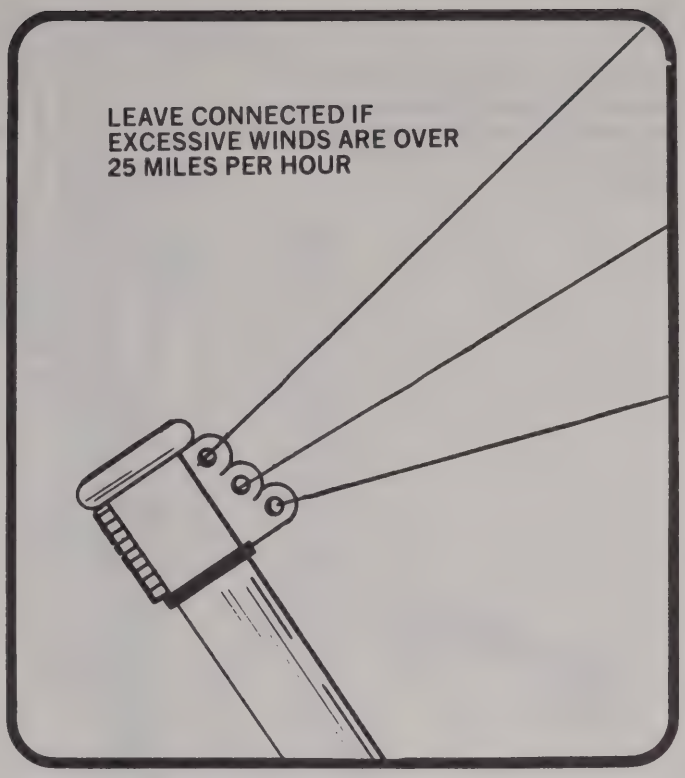
8

If personnel are available, have one person hold the top guys taut while the mast is being lowered. But, if personnel are not available to hold the guys, especially in windy weather, use the following procedures to safeguard personnel and equipment.



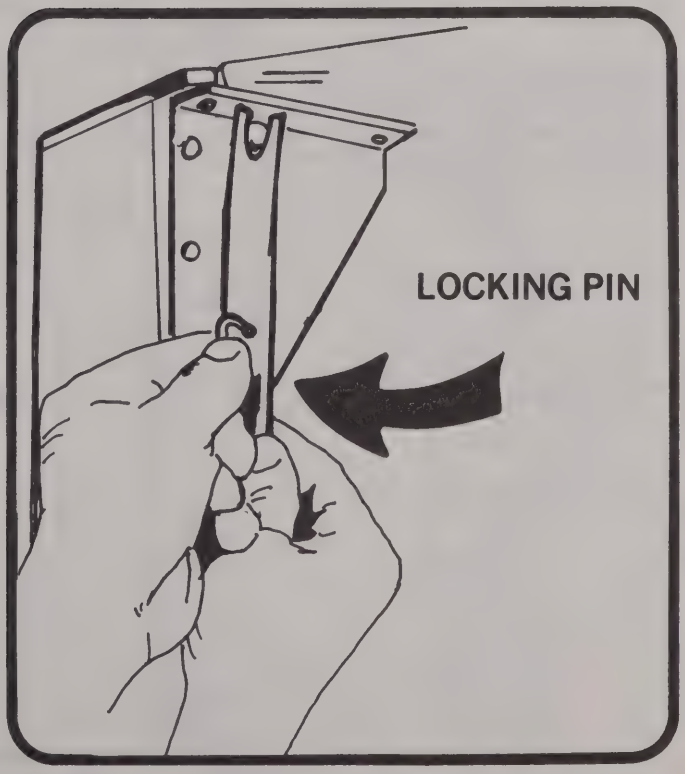
9

Leave the guys connected to their respective guy anchors until you are ready to disconnect them from the mast.



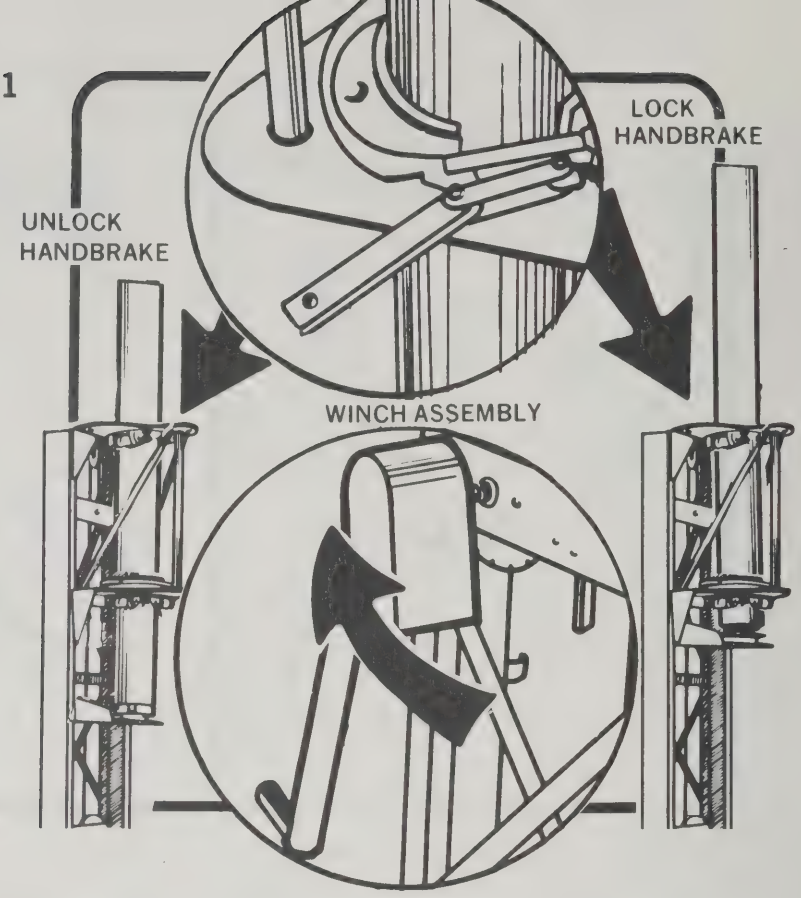
10

All right, let's get ready to lower the mast. First, release the mast section coupler tool (attached to the angle bracket under the top plate of the launcher frame) by removing the locking pin.



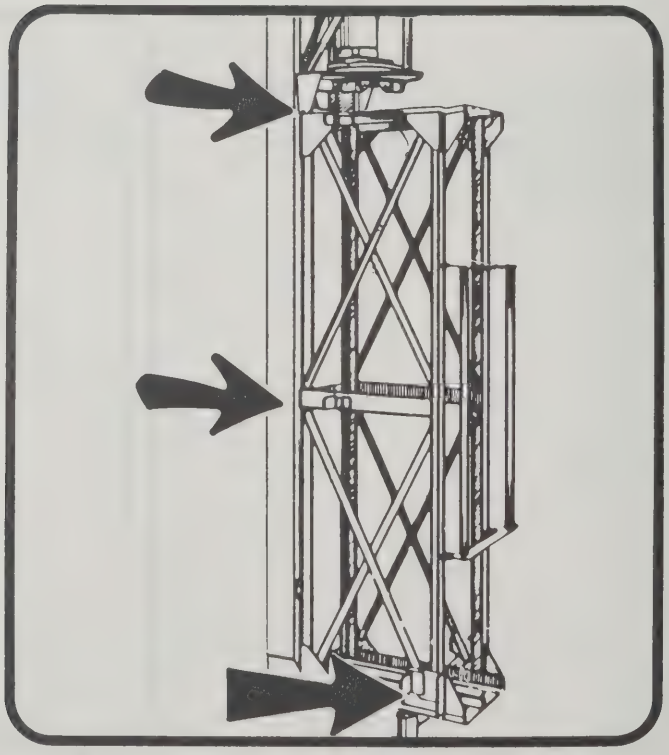
11

With your hand on the winch handle, release the handbrake and operate the winch to raise the mast section to the upper limit. Then lock the handbrake.



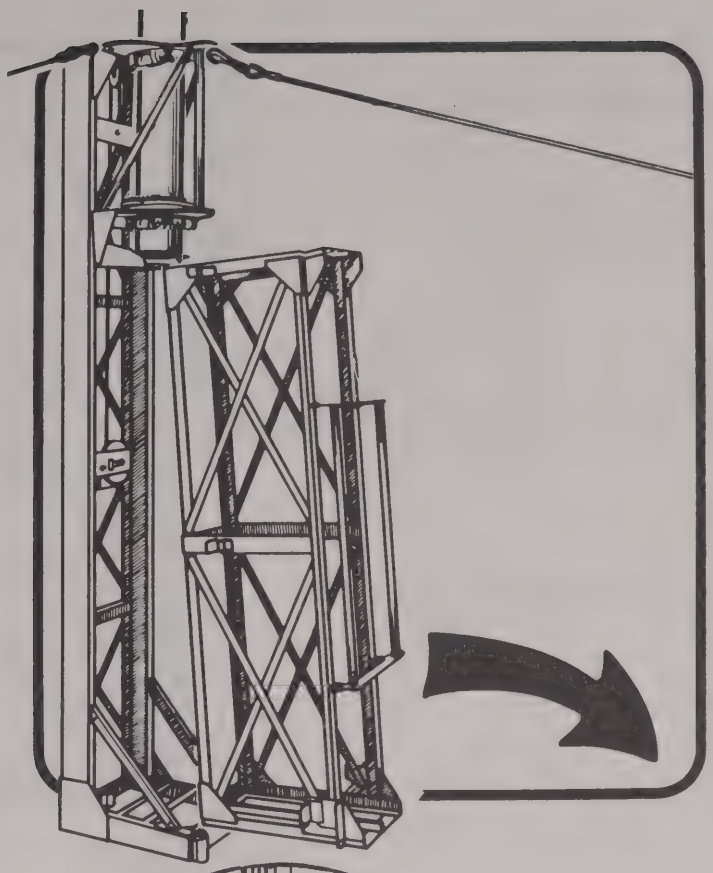
12

Now let's get ready to remove the carrier from the launcher. First, unlock the six latches (three on each side) holding the mast section carrier in the launcher...



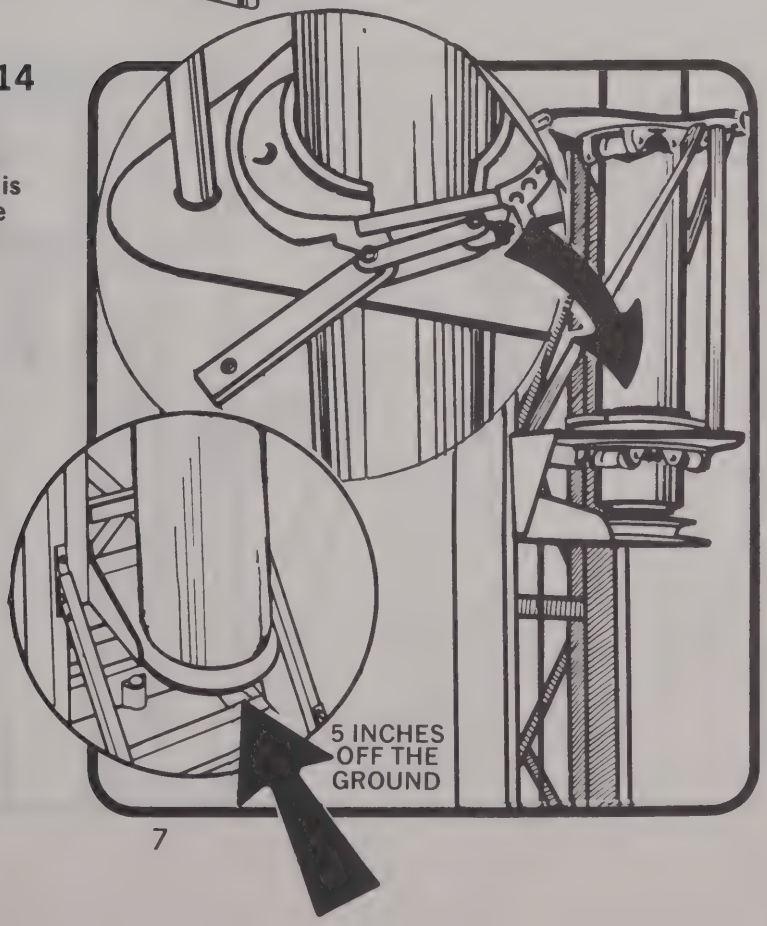
13

...Next, remove the carrier and place it near the launcher in such a way that the mast sections can be placed into it .



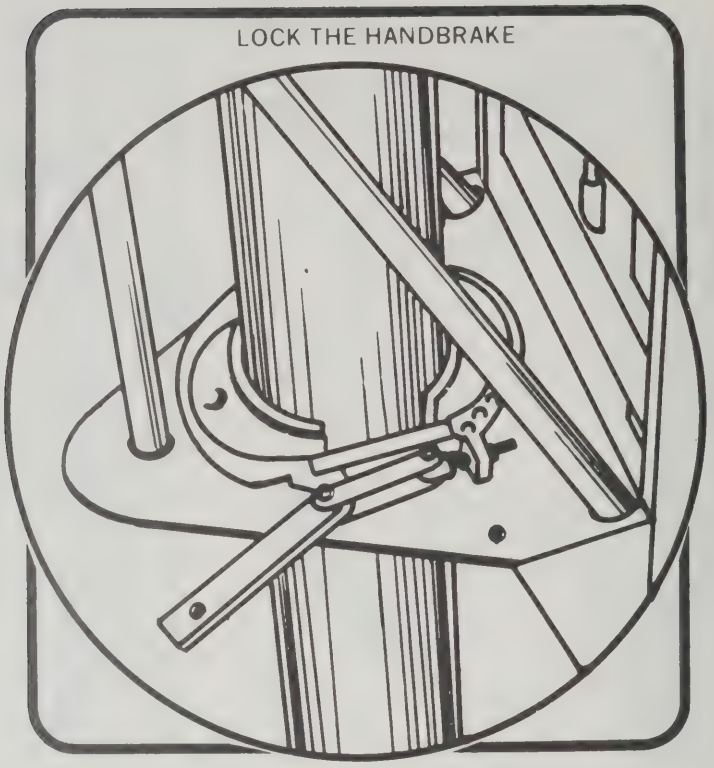
14

With your hand on the winch handle, release the handbrake and lower the mast until the bottom of the elevator is about 5 inches from the bottom of the launcher.



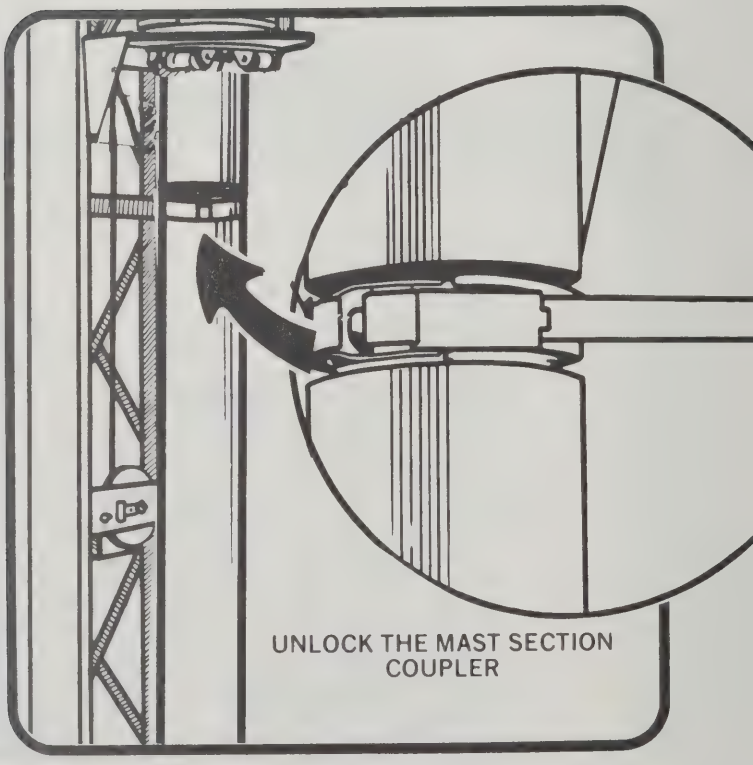
15

Now lock the handbrake.



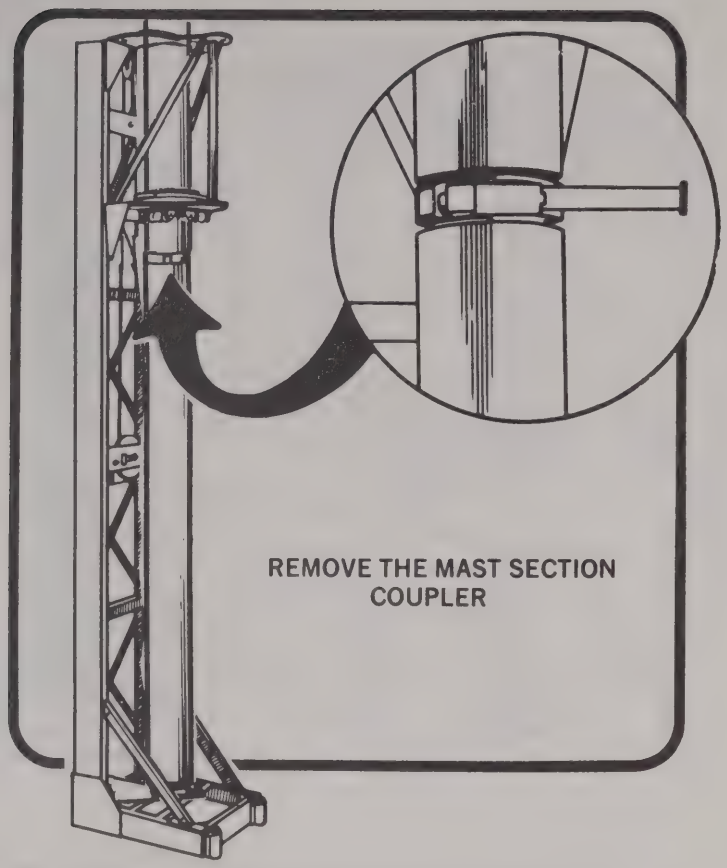
16

Unlock the mast section coupler with the mast section coupler tool...



17

...And remove the mast section coupler.

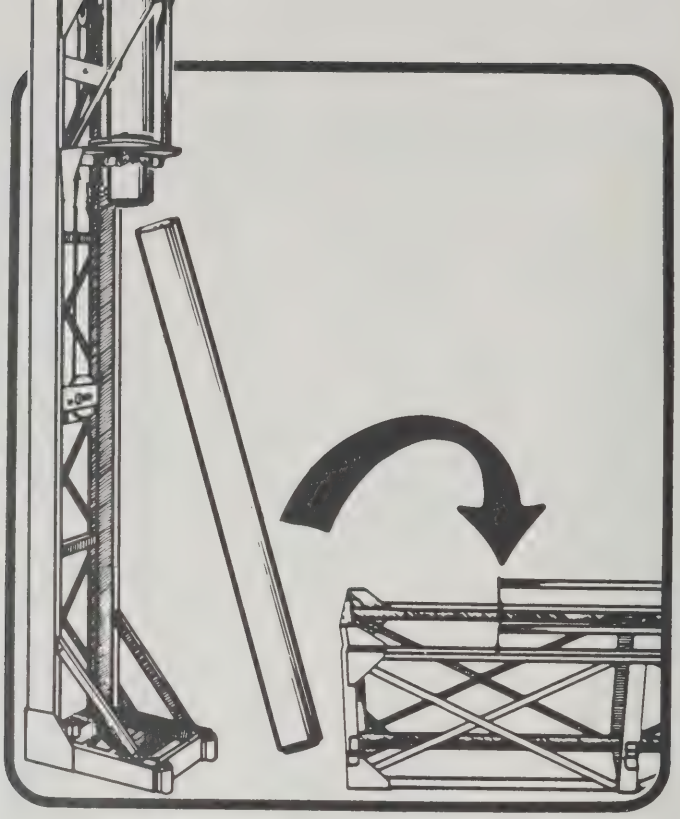


18

Next, operate the winch to lower the elevator to the base of the launcher.

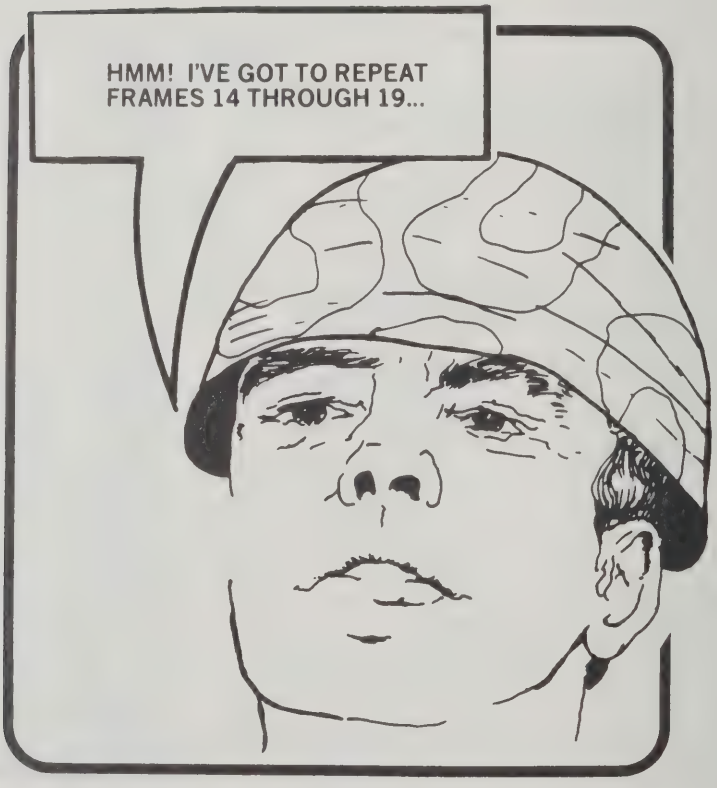
19

Remove the mast section and place it in the mast section carrier. By the way, make sure the mast section is clean before putting it in the carrier.



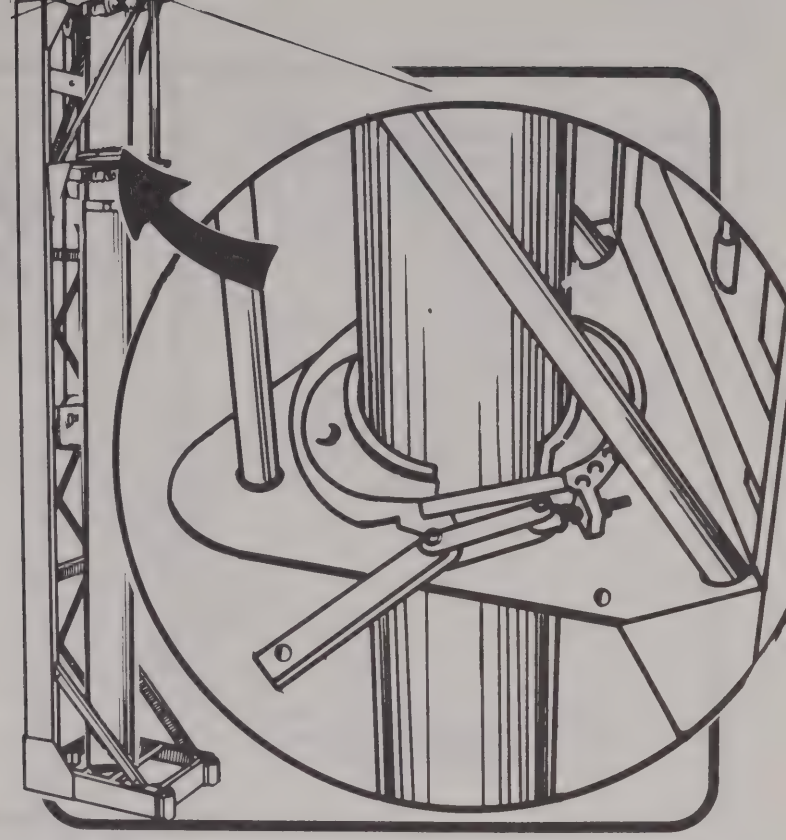
20

Use the procedure we just discussed (frames 14 through 19) to remove one more mast section. Make sure the section is clean and then place it in the mast section carrier.



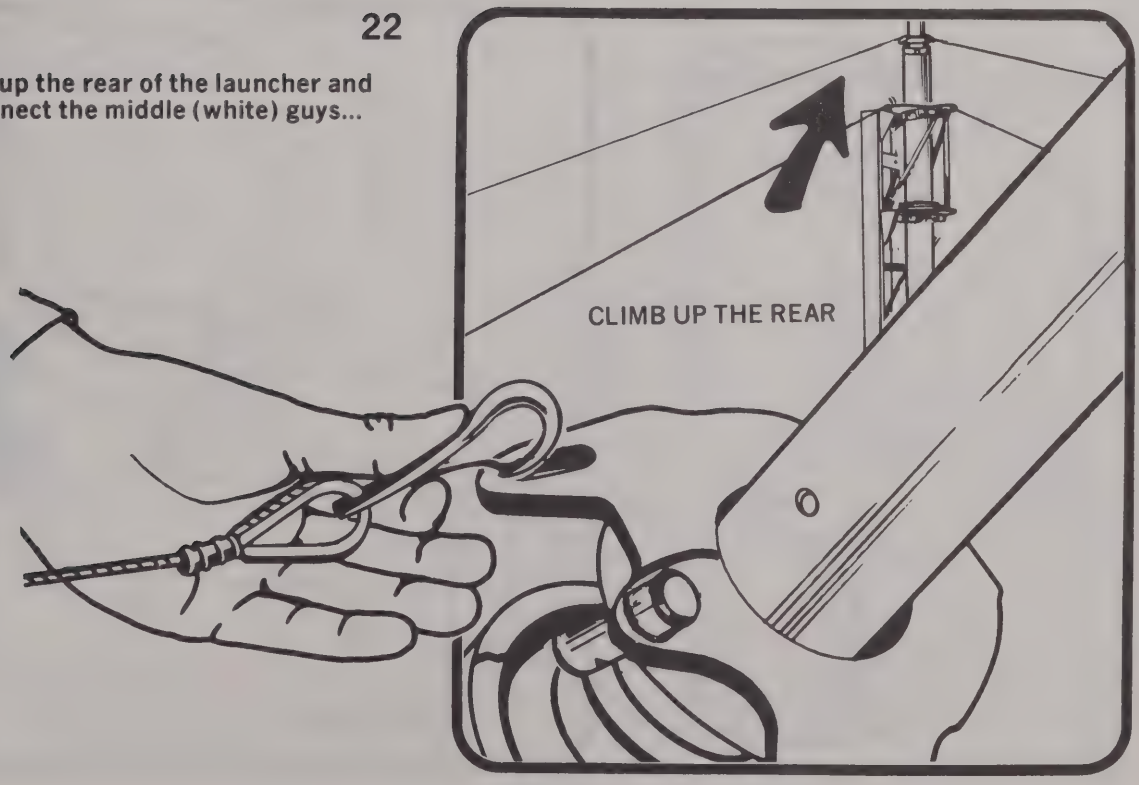
21

Now lower the next mast section all the way down into the launcher and then lock the handbrake. (The middle guy assembly should be just above the top of the launcher.



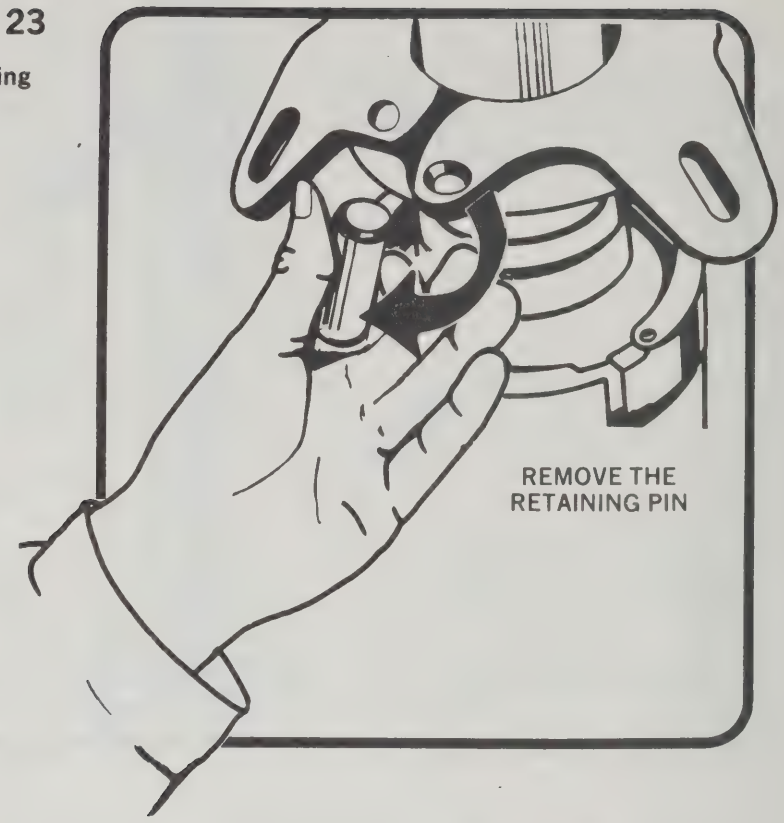
22

Climb up the rear of the launcher and disconnect the middle (white) guys...



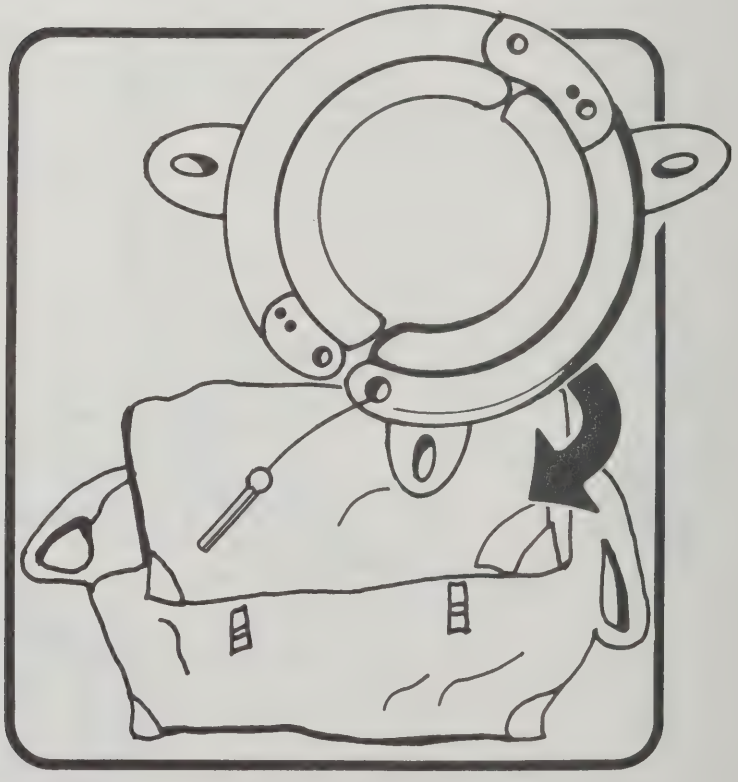
23

...And then remove the middle guy ring assembly. (To do this, you'll have to remove the retaining pin.)



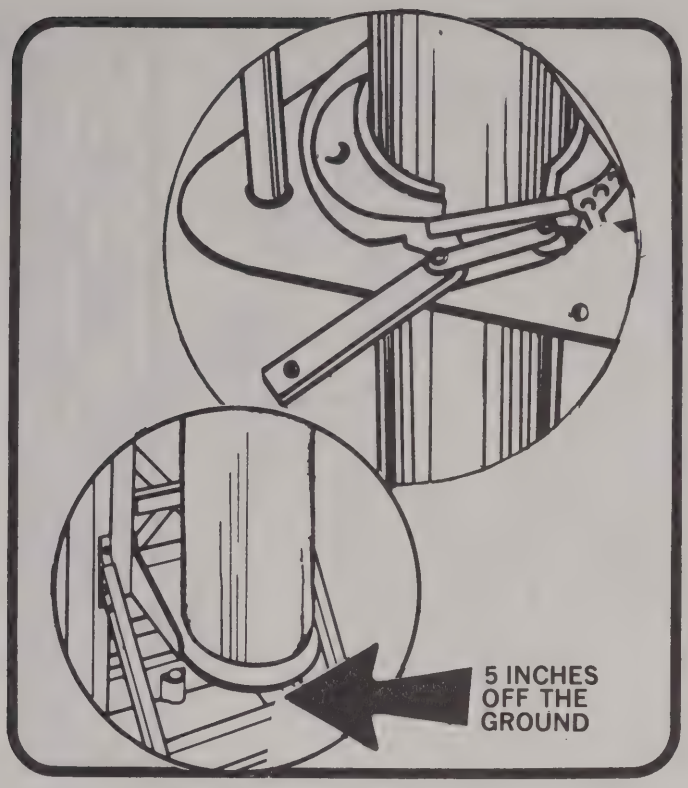
24

Place the guy ring in the accessory bag.



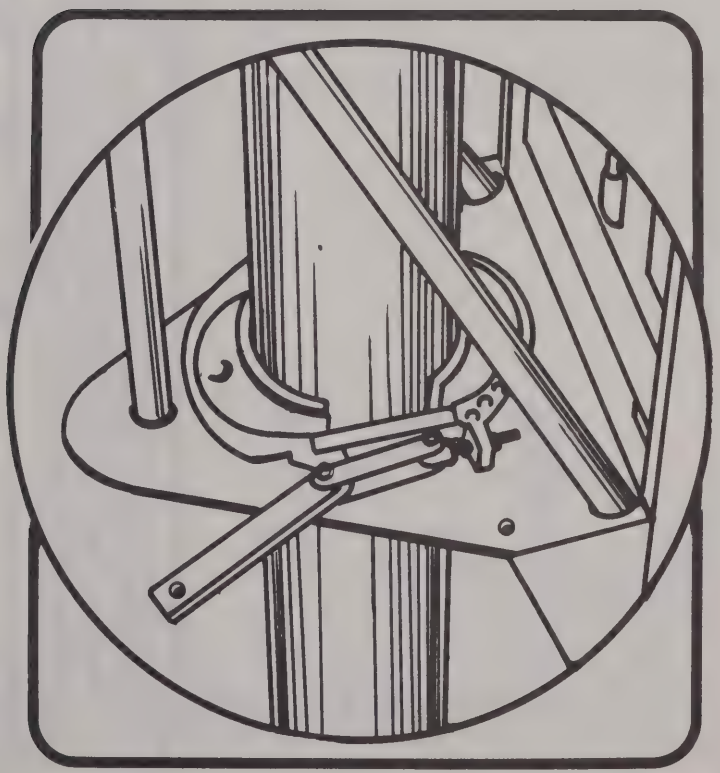
25

With your hand on the winch handle, unlock the handbrake and use the winch to raise the mast until the bottom of the elevator is about 5 inches from the bottom of the launcher.



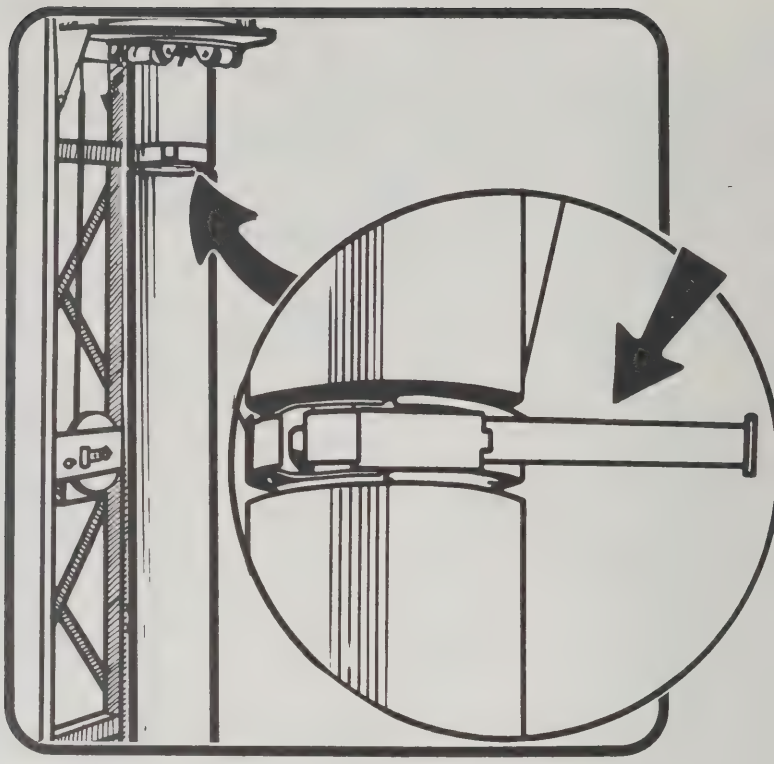
26

Next, lock the handbrake.



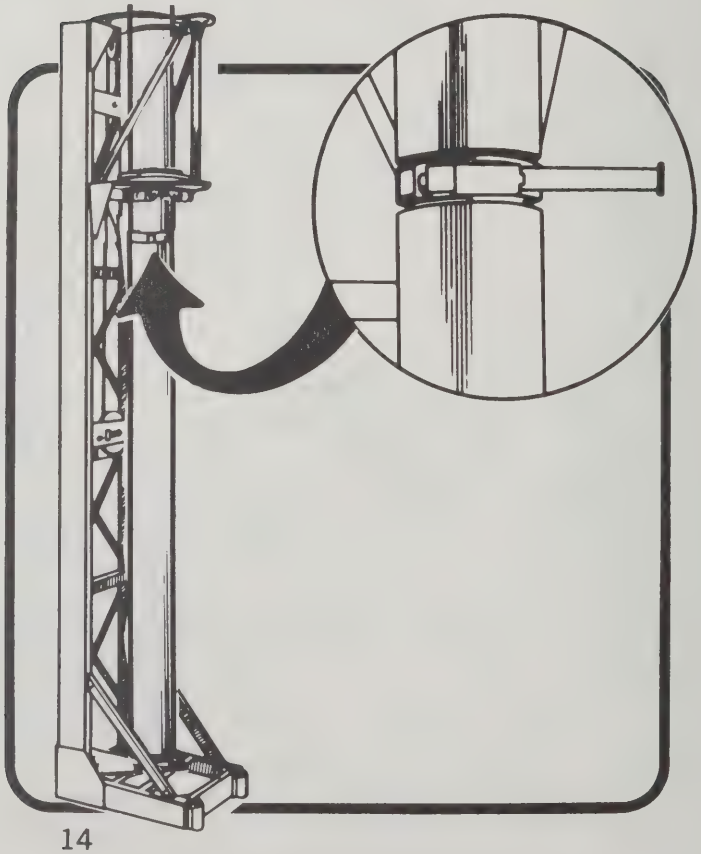
27

Unlock the mast section coupler with the mast section coupler tool...



28

...And remove the mast section coupler.

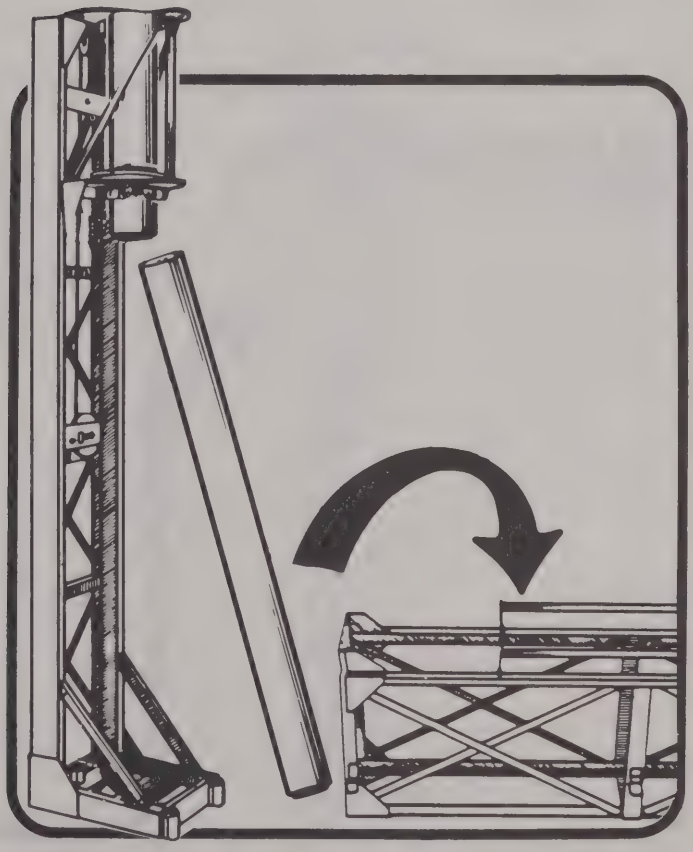


29

Now operate the winch to lower the elevator to the base of the launcher.

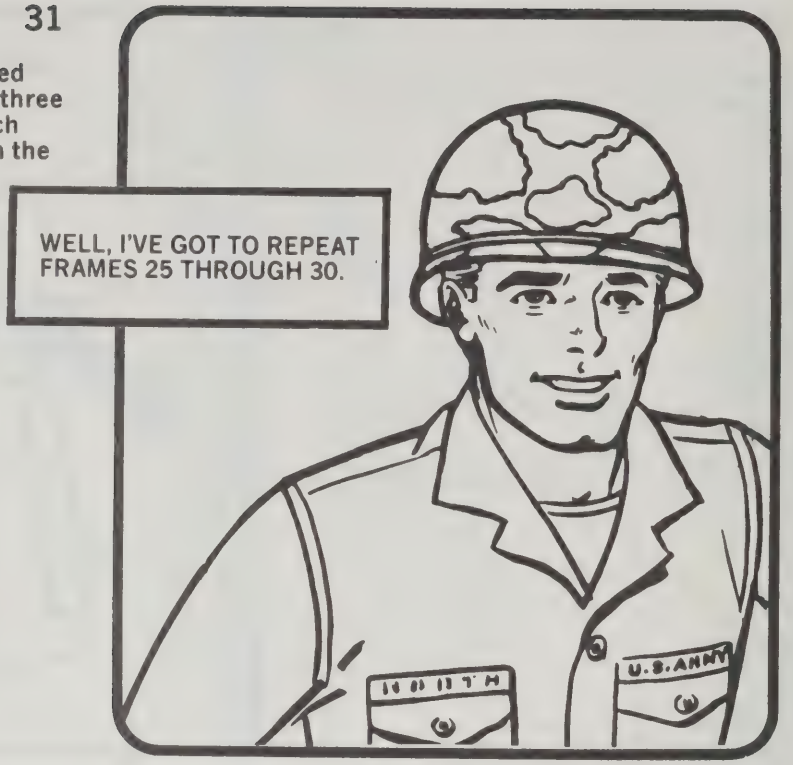
30

Remove the mast section and place it in the mast section carrier. Make sure the mast section is clean.



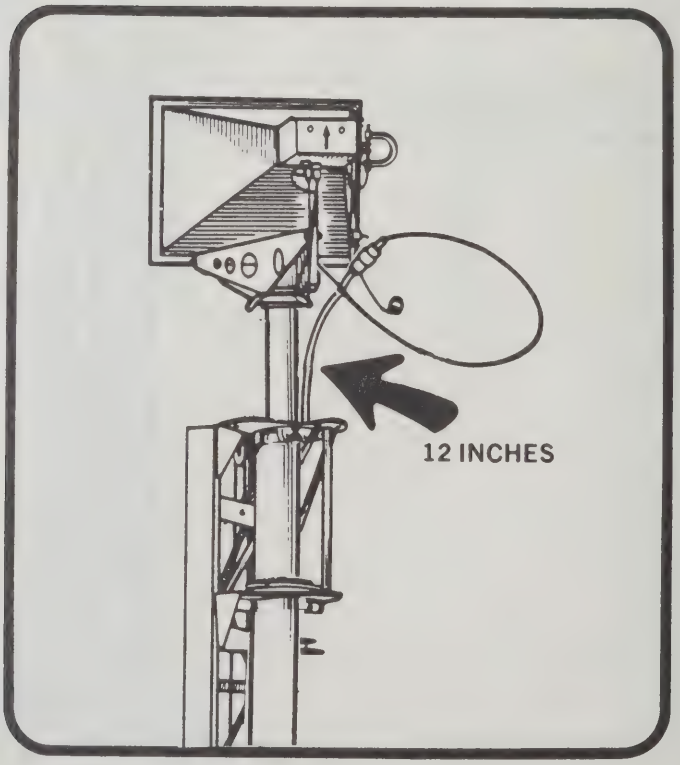
31

Use the procedure we just discussed (frames 25 through 30) to remove three more mast sections. Make sure each section is clean and then place it in the mast section carrier.



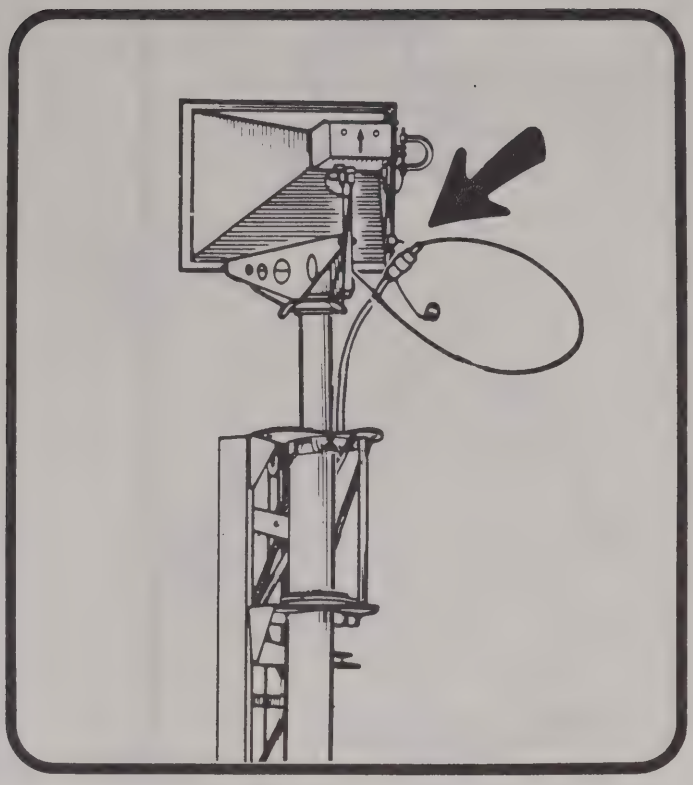
32

Unlock the handbrake and lower the elevator all the way down then lock the handbrake.



33

All right the next thing we're going to do is disconnect the 80 foot coaxial cable from the adapter.

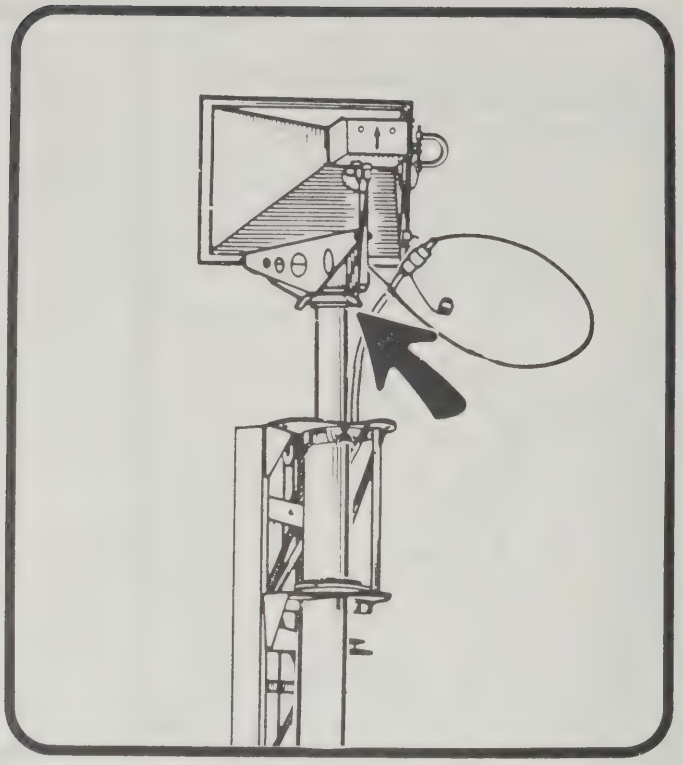


34

To do this you must climb up the rear of the launcher...

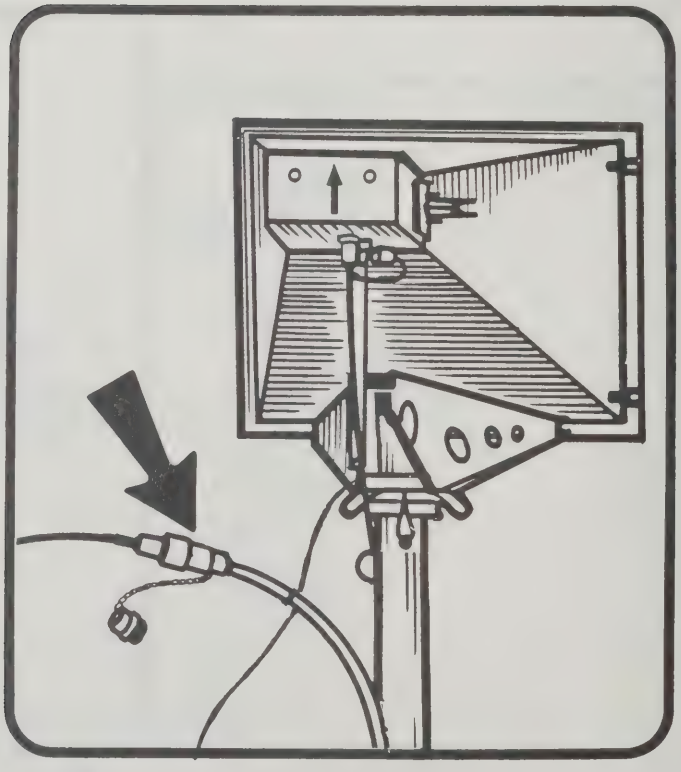
35

...Unhook the strain relief clamp on the coaxial cable from the ring on the bottom of the antenna...



36

...Then disconnect the antenna coaxial cable (80 foot) from the adapter. (Leave the 6 foot cable and the adapter connected to the antenna.)



37

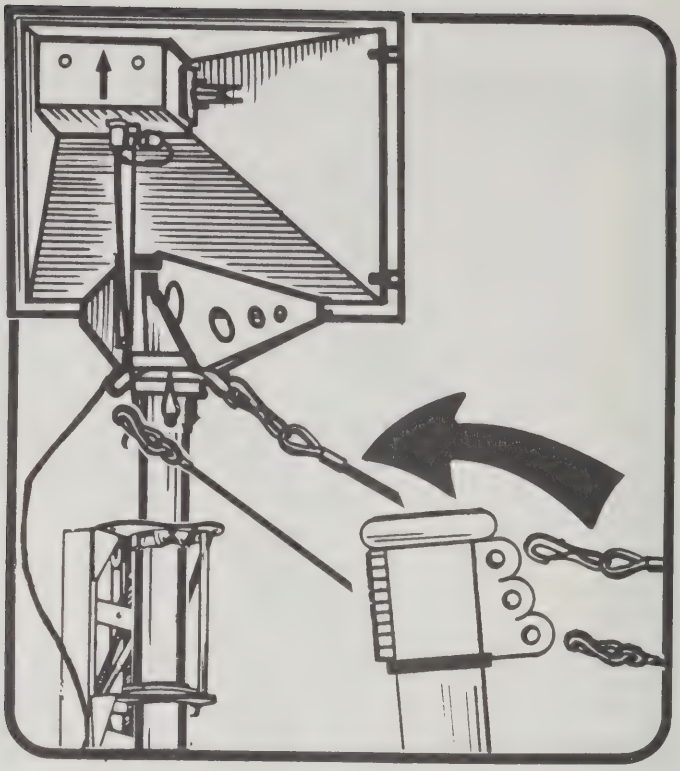
Replace the protective cap on the end of the 80 foot cable you just disconnected.

38

Now wind the antenna coaxial cable up on its reel. Remember to clean the cable as you go. When you finish, continue to the next frame.

39

Remove all the guy lines from the mast and launcher. Also remove the other end of the guy wires from the guy stakes and anchors.

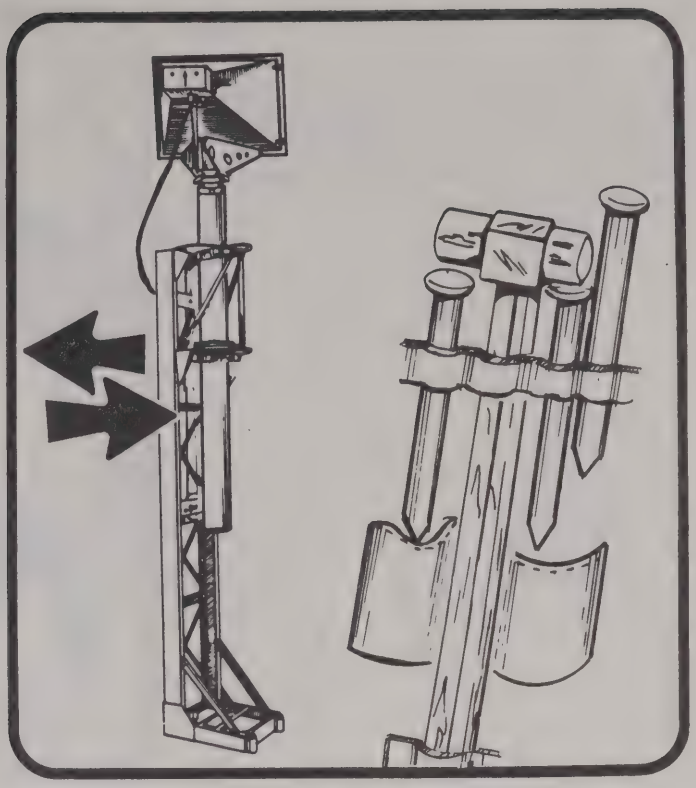


40

Once all the guy wires are disconnected, adjust the snubber all the way in, then roll up each guy wire onto the snubber assembly, cleaning it in the process. Once a guy wire is rolled up, wrap the chain that is attached to the snubber around the guy wire tight and connect it to the hook on the snubber.

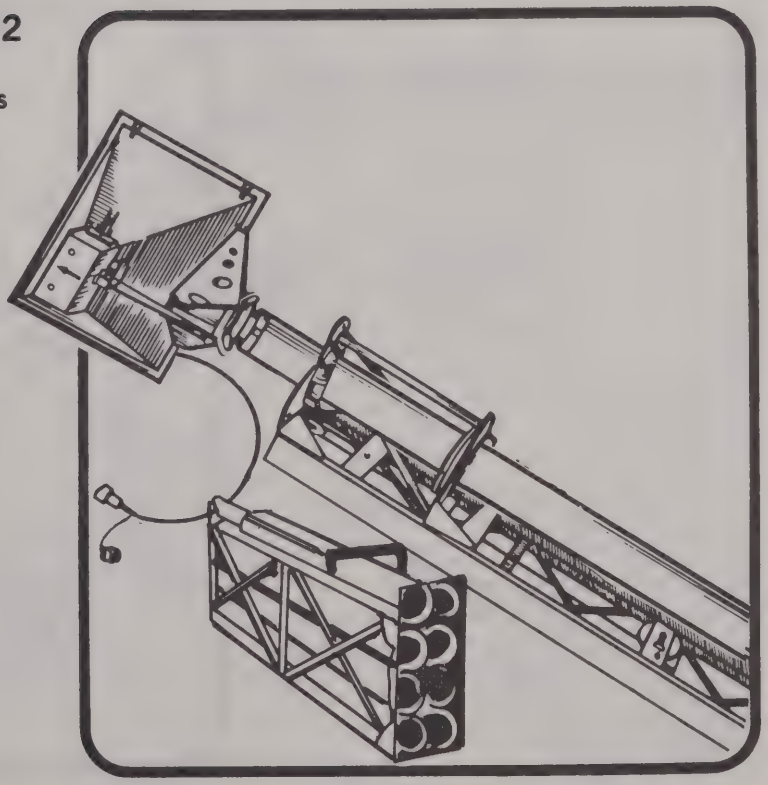
41

At this time, rock the launcher back and forth till the GP-2 stakes are loosened from the ground, and remove the GP-2 stakes from the launcher and store them in the accessory roll bag.



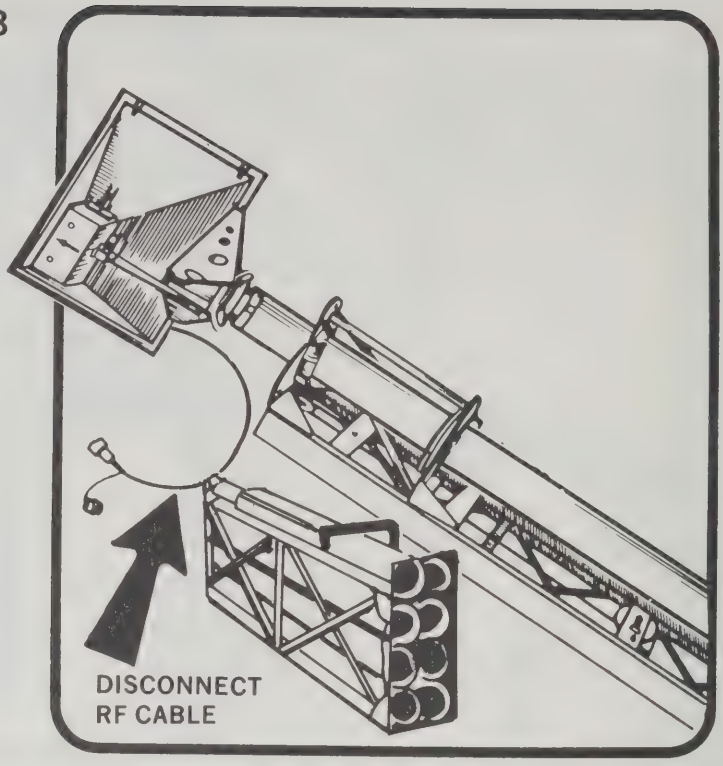
42

Now lower the launcher down until it is resting on top of the mast section carrier in the middle without it falling off or slipping from the mast section carrier.



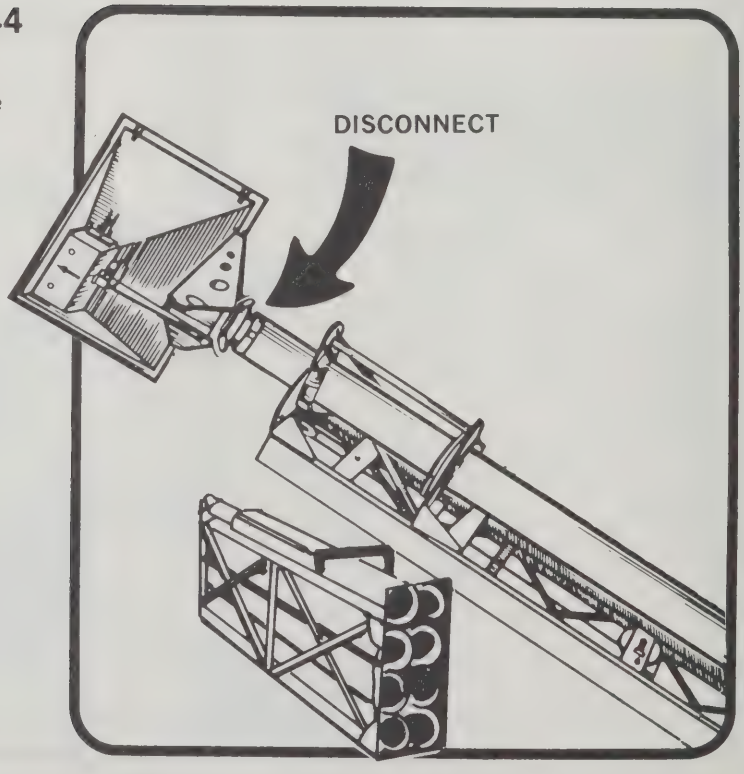
43

Now disconnect the RF cable CG-718 from the antenna horn. After you have done this disconnect the adapter from the RF cable CG-718. Now put these items in the storage bag.



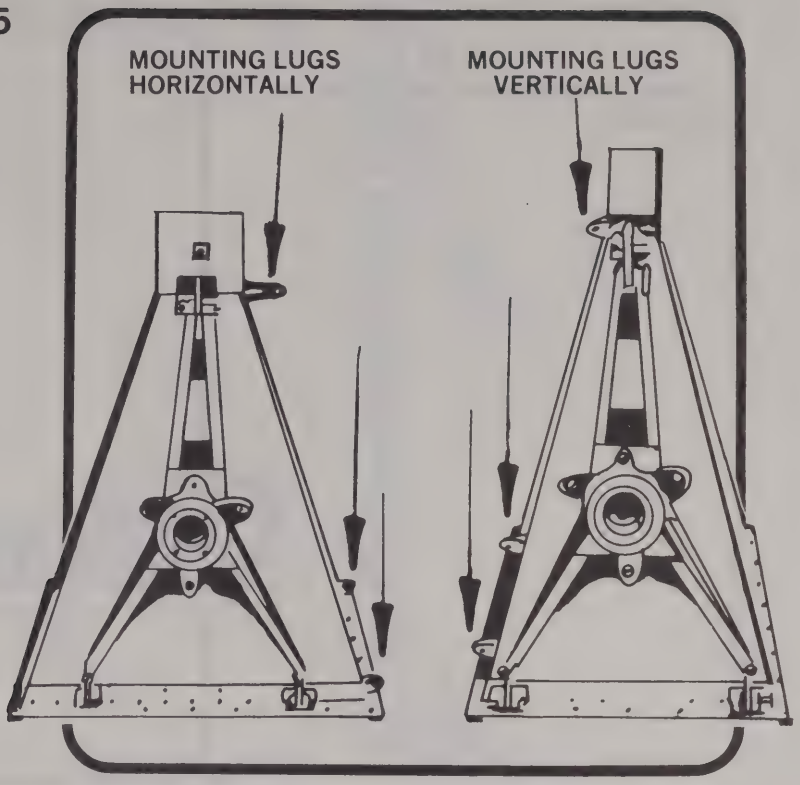
44

Next, disconnect the antenna element from the mast section and lay it on the ground.



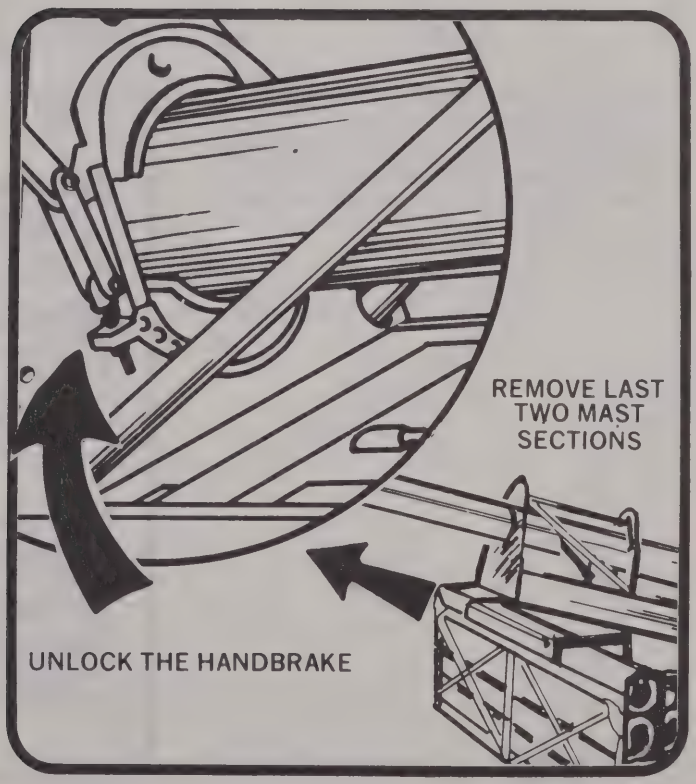
45

If the antenna is in the HORIZONTAL position. Disconnect the antenna mounting frame from the antenna element and mount it in the VERTICAL position. Now lay the antenna element out of the way.



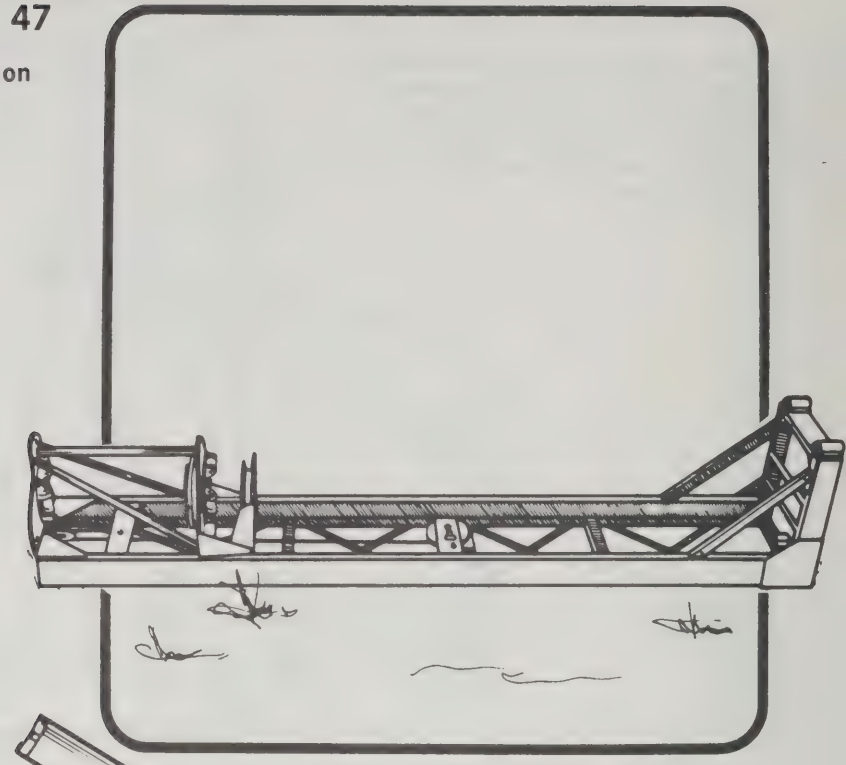
46

Now remove the last two mast sections from the antenna launcher. To do this, unlock the elevator brake and remove the last two mast sections from the antenna launcher. Put the mast sections down for now.



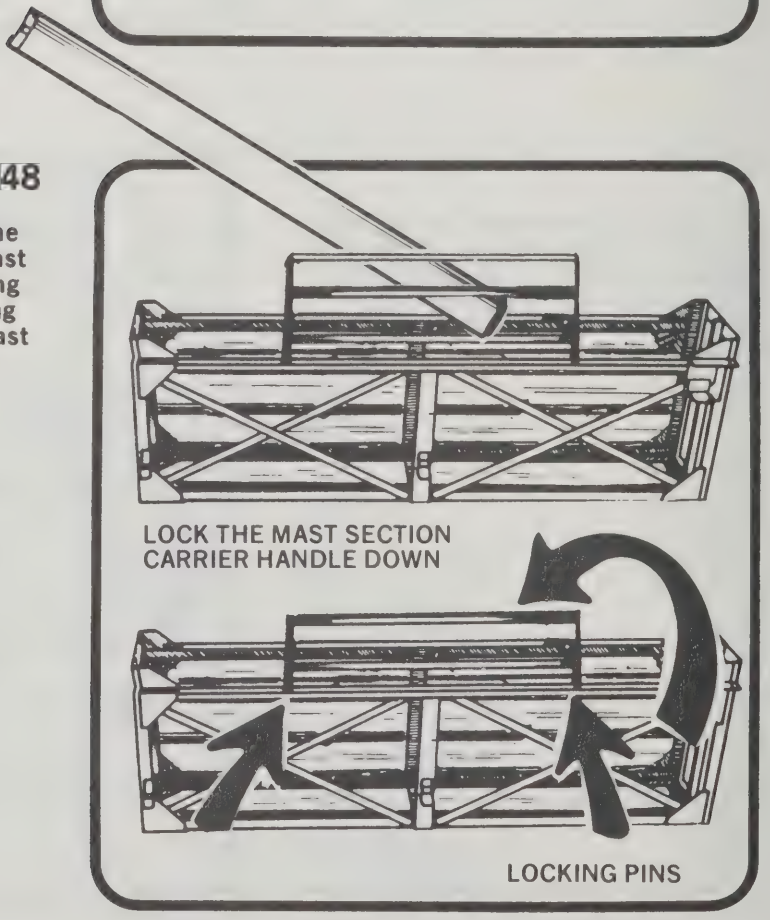
47

Lay the antenna launcher down flat on the ground.



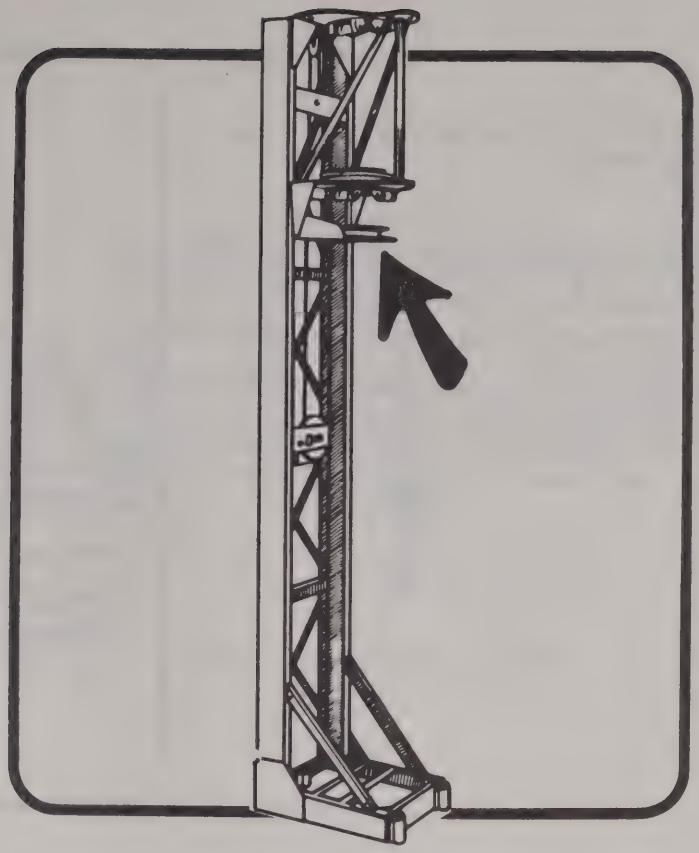
48

Place the last two mast sections in the mast section carrier, and lock the mast section carrier handle down by closing the handle and inserting the retaining pin into the top and bottom of the mast section carrier.



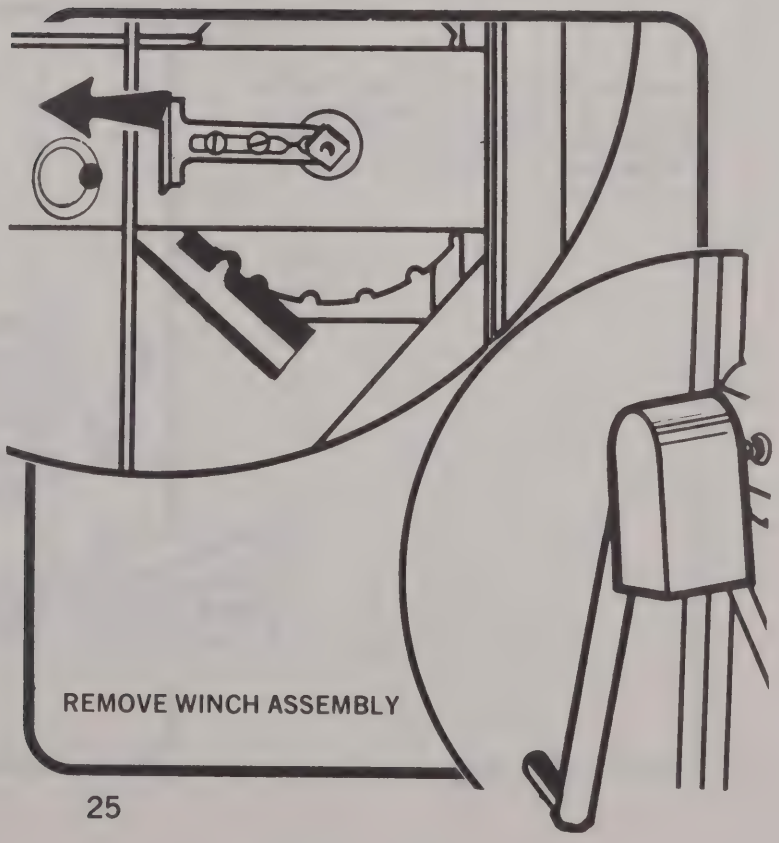
49

With the launcher standing up, wind the elevator platform all the way to the top.



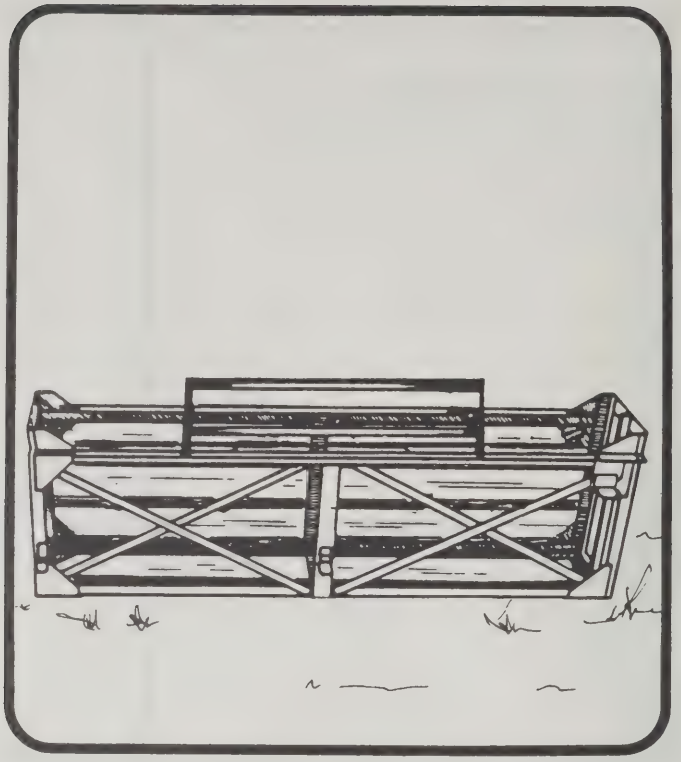
50

Now remove the winch assembly from the launcher by removing the locking pin from the winch assembly and removing the winch assembly from the launcher. Replace the retaining pin into its slot. Lay the launcher back down flat on the ground now.



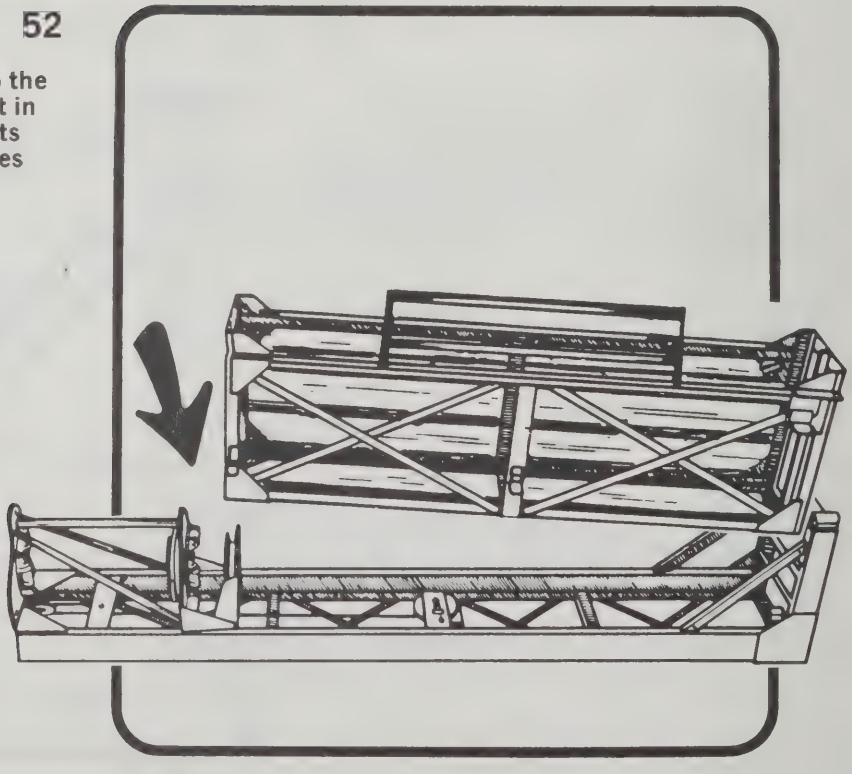
51

Place the mast section carrier back into the launcher.



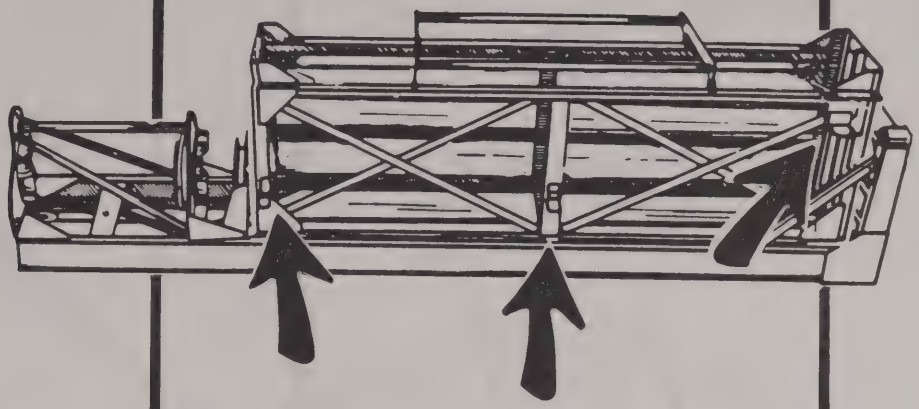
52

Insert the mast section carrier into the launcher by lifting it up and place it in the launcher and position it till it fits into the launcher and the six catches are lined up.



53

Lock the six catches between the mast section carrier and the launcher (three on each side).



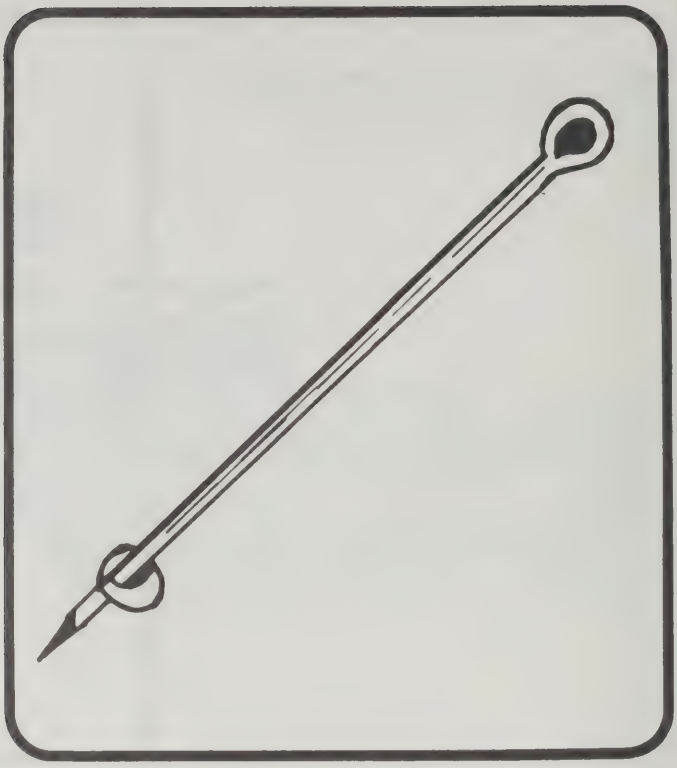
THREE LATCHES ON EACH SIDE

54

Remove the antenna stakes from the ground. The following procedures will explain how to do this. This will depend on what kind of stakes you are using.

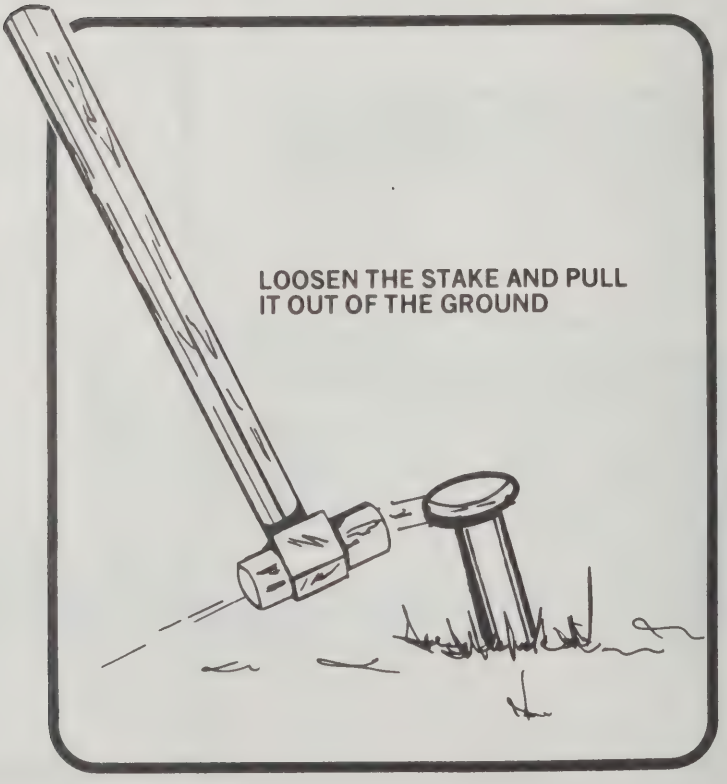
55

If you are using the guy anchors, just read along the following frames till frame 59 then follow the rest of the procedures.



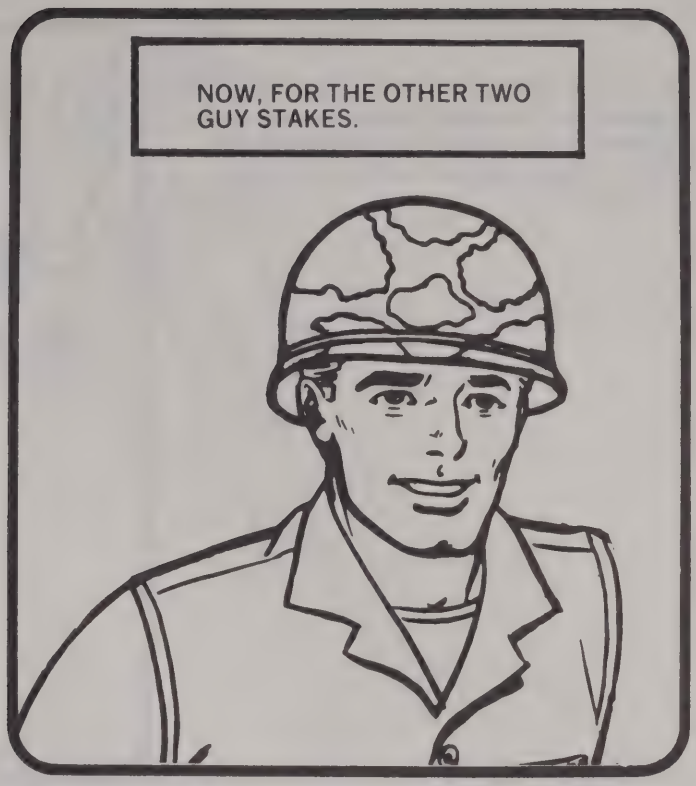
56

To take the stake GP-113 out of the ground, take the sledgehammer and pound or hit the stake back and forth till it is loosened from the ground. After the stake is loosened, just pull the stake out of the ground.



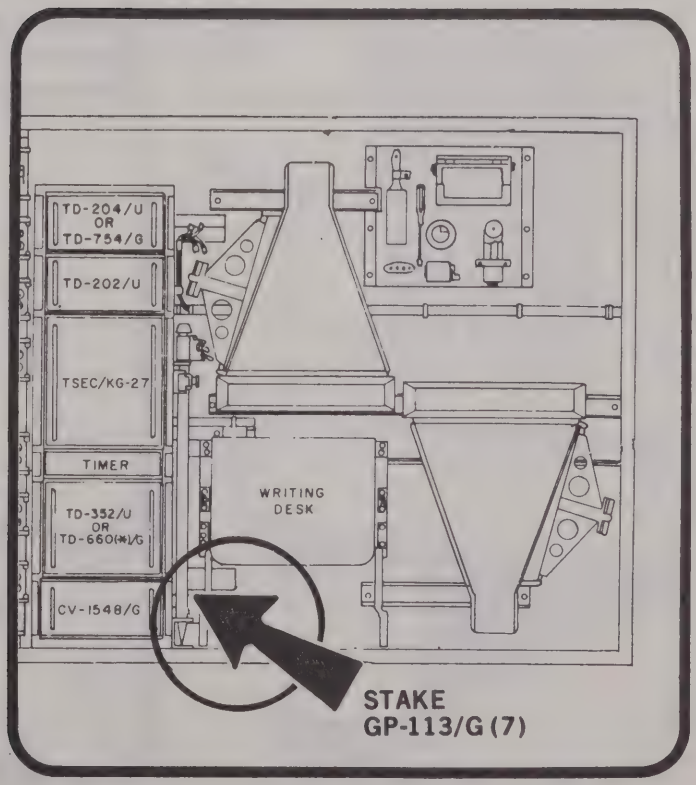
57

Do this till all three GP-113 stakes are out of the ground.



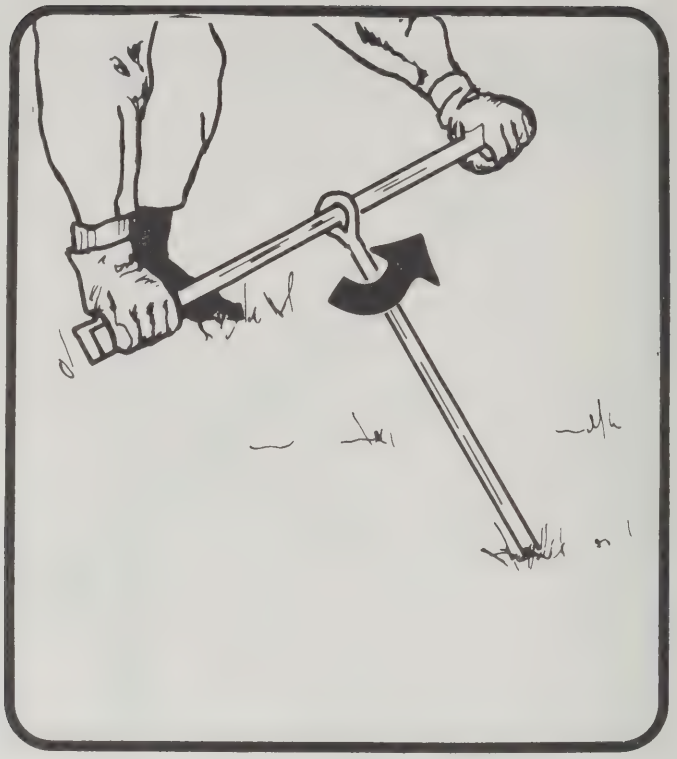
58

After the stakes are pulled out of the ground, put the GP-113 stakes back in their respective storage place in the shelter.



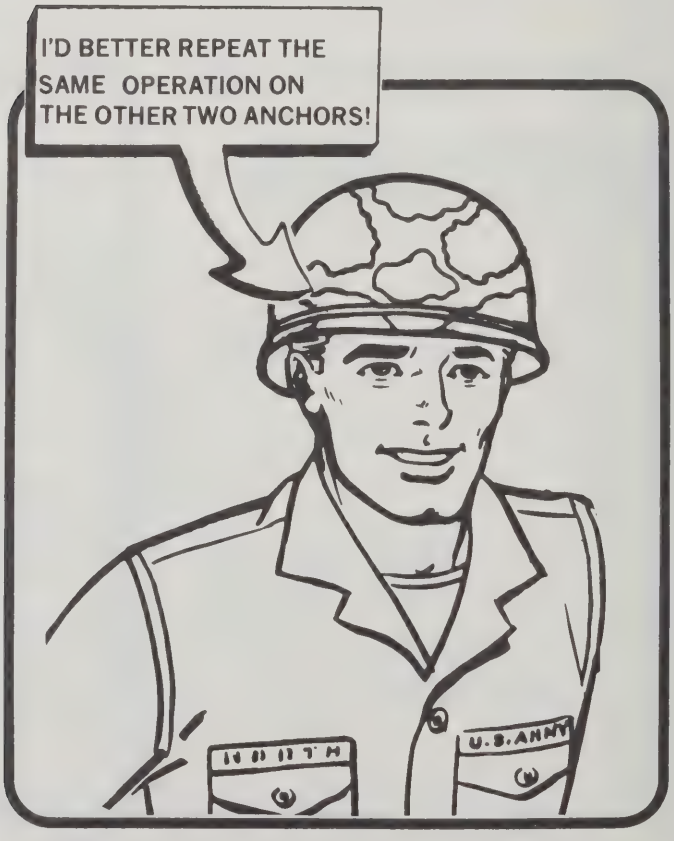
59

If you are using guy anchors, put the digging bar through the anchor eye and screw the guy anchor counterclockwise until the guy anchor is out of the ground.



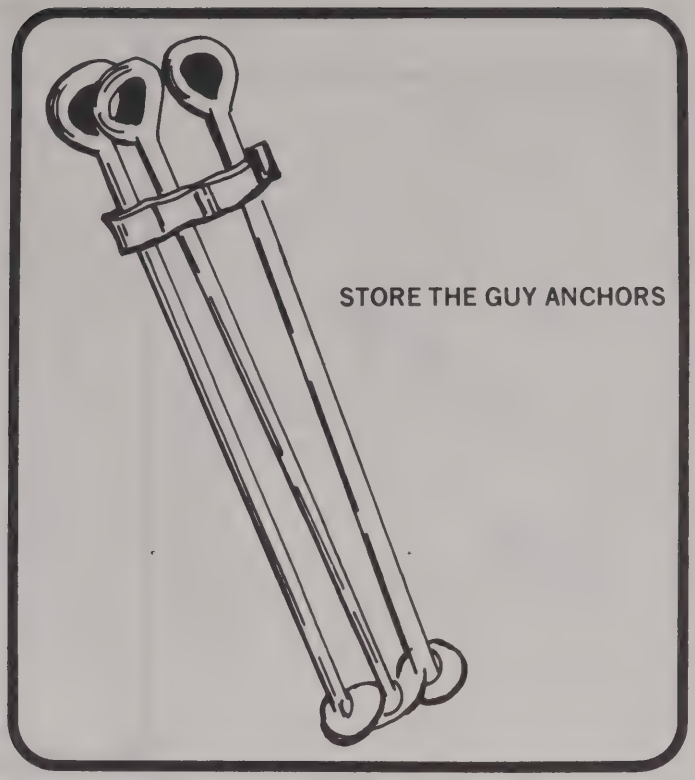
60

Do this till all three guy anchors are out of the ground.



61

After all three guy anchors are removed store them in the accessory roll bag.

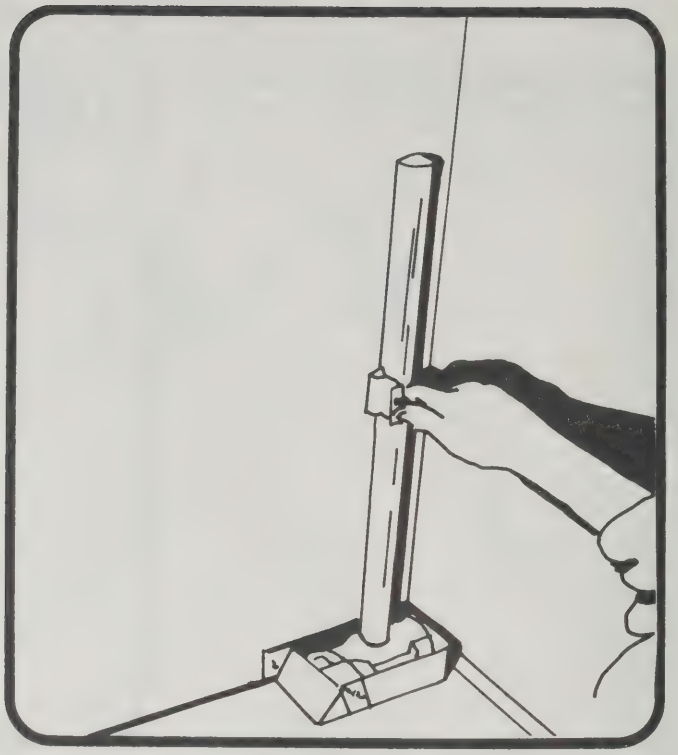


62

Now load the equipment back into the shelter.

63

Place the sledgehammer back into the storage place in the van.

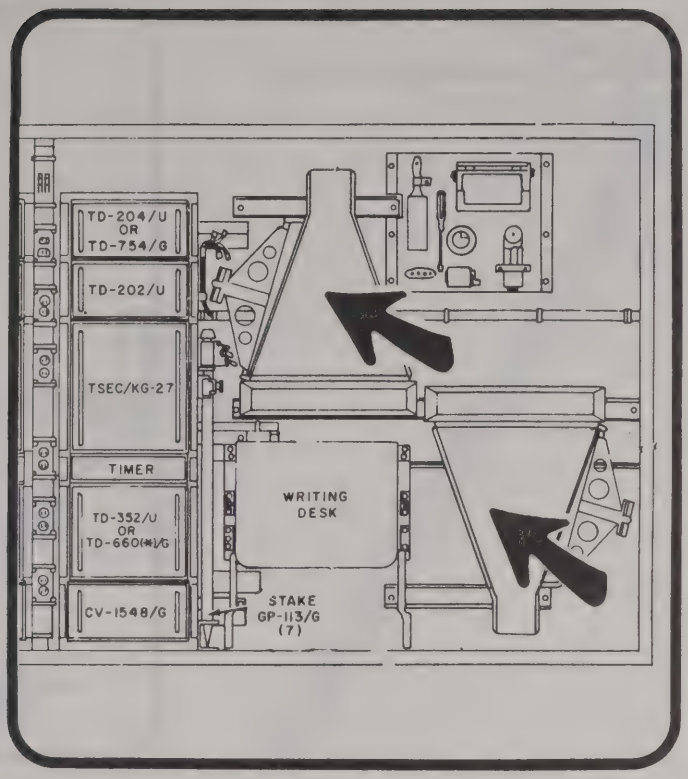


64

Place the cable reel with the coaxial cable rolled up into it's storage place in the van.

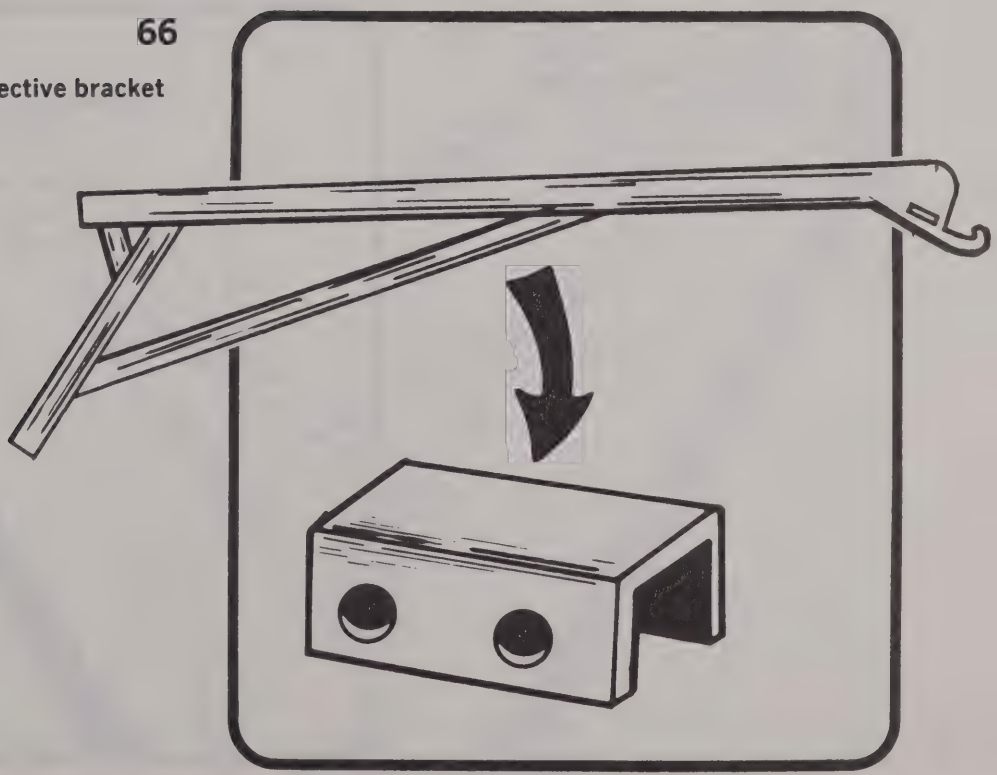
65

Place the antenna horn AT-903 back into its storage place in the van.



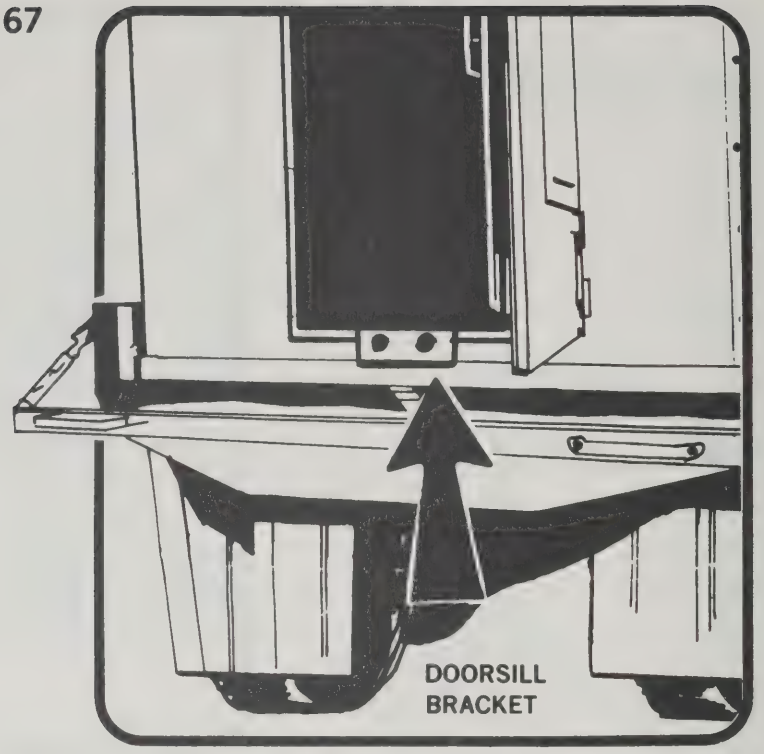
66

Remove the doorsill protective bracket from the loading chute.



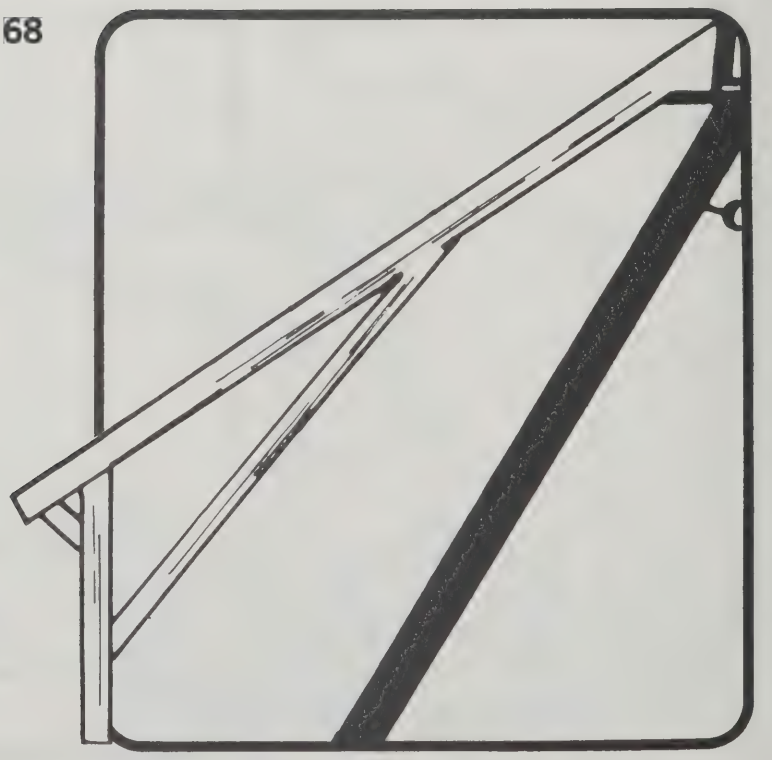
67

Place the doorsill bracket over the doorsill of the shelter.



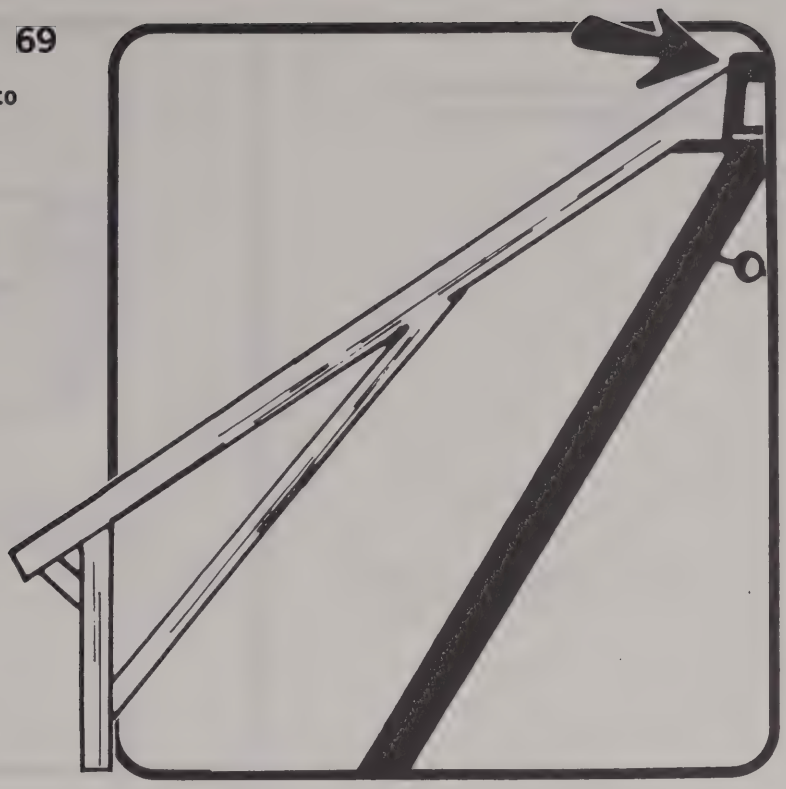
68

Install the loading chute from the tailgate to the ground.



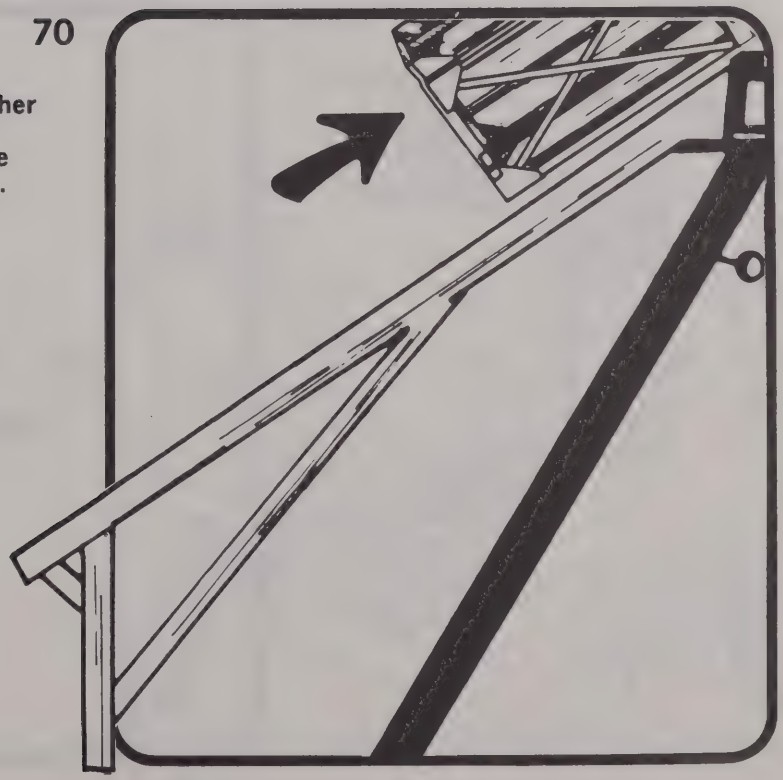
69

Secure the upper end of the chute to the tailgate.



70

With your assistant and with another member in the shelter, slide the launcher into the shelter using the loading chute then store launcher.



71

Store the antenna accessory bag in its storage place in the van.

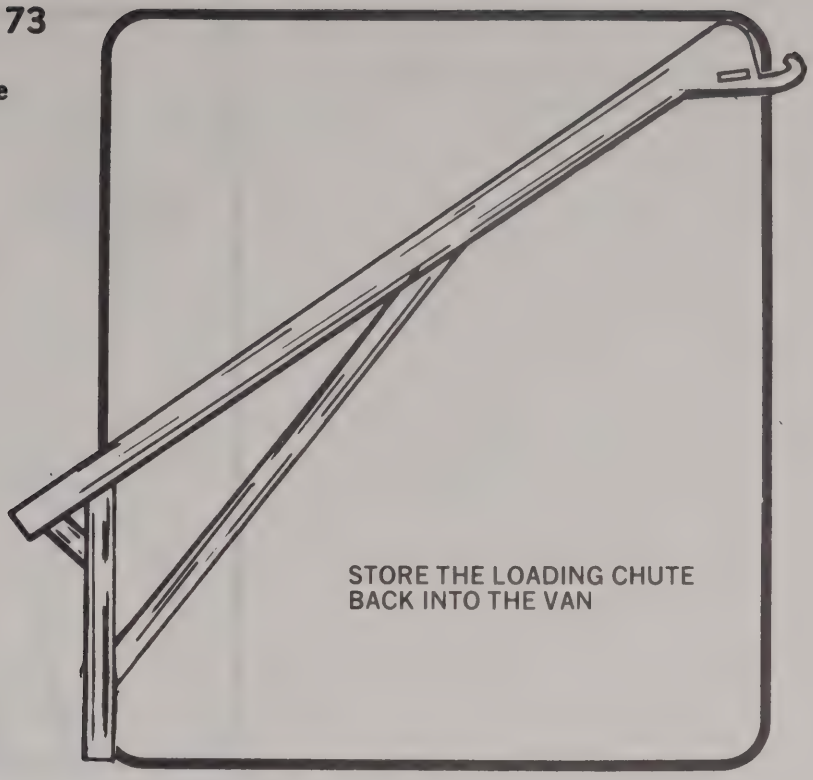
STORE THE ANTENNA ACCESSORY BAG

72

Store the antenna accessories roll in its storage place in the van.

73

Store the loading chute back into the van.



STORE THE LOADING CHUTE BACK INTO THE VAN

74

Now that you have completed taking down the antenna and storing all of the antenna components in the van you have completed this lesson.

75

If you feel you need more practice, go over the lesson again.

PRETEST/POSTTEST ANSWER KEY
(OVER)

PRETEST/POSTTEST
ANSWER KEY

SCHOOL: SIGNAL
MOS: 31M10/20

TEC LESSON
202-113-5169-A

RADIO TERMINAL SET AN/TRC-117
ERECTING THE ANTENNA PART 3
DISASSEMBLE

This is the pretest/posttest answer key to TEC Lesson 202-113-5169-A, Radio Terminal Set AN/TRC-117, Erecting the Antenna, Part 3, Disassemble, and contains every action that the soldier is to take. It is not necessary that the soldier follow each step in sequence provided each action is completed. This test is scored GO/NO-GO.

ACTION	GO	NO-GO
1. Disconnect the antenna cables from the AN/TRC-117 Video and Antenna Entrance Box.		
2. Hold top guys until mast is down.		
3. Release the mast section coupler tool.		
4. Release brake and raise mast.		
5. Lock brake and remove mast section carrier.		
6. Remove mast sections and place in carrier.		
7. Remove white guys and guy ring.		
8. Remove all but the last 2 mast sections.		
9. Remove 80 ft coaxial cable from the antenna adapters and adapter from antenna.		
10. Reel cable onto its reel, clean as you go.		
11. Remove all guys from mast and launcher, clean and roll them up.		
12. Remove GP-2 stakes and store into accessory roll bag.		
13. Rest launcher on mast section carrier and remove RF cable CG-718.		

PRETEST/POSTTEST
ANSWER KEY (cont'd)

TEC LESSON
202-113-5169-A

ACTION	GO	NO-GO
14. Remove antenna from mast section.		
15. Remove last 2 mast sections.		
16. Remove the winch.		
17. Now put the mast section carrier back into the launcher.		
18. Pull the stakes out of the ground.		
19. Put all equipment back into the shelter at this time.		